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A Study of the Academic Success of College Freshmen in Terms of Jungian Psychological Types.

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A STUDY OF THE ACADEMIC SUCCESS OF COLLEGE FRESHMEN IN TERMS OF JUNGIAN PSYCHOLOGICAL TYPES

A Dissertation

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Louisiana State University and
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by
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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

This research was designed in order to study the academic success of college freshmen in terms of Jungian psychological types. The Myers-Briggs Type Indicator (MBTI) was used to assess the preferred types. Recent changes in the kinds of students enrolled in institutions of higher education called for curricular reform. Student Development professionals sought ways to meet the needs of these "new" students.

The question asked was: Are there differences among the psychological types of Nicholls State University freshmen in terms of (1) grade point average, (2) advanced placement, (3) remedial placement, (4) enrollment in special programs, (5) scholarship awards, (6) unselected majors, (7) resignation from the University, and (8) withdrawal from one or more courses?

The MBTI was administered to all full-time freshmen; 1041 usable answer sheets were scored by the Center for the Applications of Psychological Type and the findings placed on Type Tables which provided the frequencies of the base population in each of the 16 types. The 16 types were combinations of the following functions: Extraversion (E), Introversion (I), Sensing (S), Intuition (N), Thinking (T), Feeling (F), Judgment (J), and Perception (P).

The Nicholls Data Processing Center provided the

data for the eight academic variables.

Statistics used were Analysis of Variance, Chi-square, and Fisher's Exact Probability. All hypotheses were tested against the null at the 0.01 level of confidence.

Predictions made were based on Jung's theory and subsequent research on teaching and learning with regard to psychological types.

The findings led to the conclusion that there were significant differences at the 0.001 level in grade point average, advanced placement, remedial placement, enrollment in special programs, scholarship awards, and unselected majors. There were no differences with regard to resignations or withdrawals.

Intuition (N) was the most important factor in academic success, the combination of intuition and judgment (NJ) was the type preference with the highest grade point averages, extraversion (E) and feeling (F) were important where selection of scholarship winners was based on interviews. Sensing (S) was the preference most often associated with low achievement in general, and the combination of sensing and thinking (ST) was associated with low achievement in English, Mathematics, and Reading.

Implications were discussed and recommendations for further study were made.

Chapter 1

INTRODUCTION

BACKGROUND OF THE STUDY

The arrival of new types of students on college campuses through open admissions and equal opportunity policies caused a problem. Many of these students did not possess the academic skills necessary to succeed in college. The cost of higher education increased with the increased attrition rate of these non-traditional learners. Egalitarian education along with financial pressures, the concepts of accountability and consumer advocacy brought about changes which presented a challenge to higher education (Cross, 1972, 1976; Beeler, 1976).

Nicholls State University, hereafter referred to as Nicholls, was no exception to the national trend. The scores on the American College Test of almost 50% of its freshmen caused them to be placed in remedial sections of English and Mathematics in the Fall of 1977. The attrition rate that year was 43.6%, the highest in Louisiana.

Nicholls had as its stated mission (Nicholls State University Bulletin:35), ". . . to meet the higher educational needs of Louisianians and to serve as a cultural and educational center for South Central Louisiana." This area was virtually unserved by public higher education before 1948 when Nicholls was established as a junior college.

The majority of students who attended were the first generation in their families to attend college. They were non-traditional students who according to the 1978 ACT Class Profile Report enrolled at Nicholls because it was there, having been encouraged to do so by Louisiana'a open admissions policy which allowed any graduate of an institution accredited by the State Board of Elementary and Secondary Education to enroll in any state college or university. The educational needs of these students were great since many could not read or write well enough to do college level work.

Some of the same changes which brought the new types of students to the nation's campuses caused changes in the field of student personnel in higher education. With the demise of the in-loco-parentis philosophy, the seemingly ancillary nature of their expertise, and the financial pressures to fund only academic positions, student affairs administrators felt their very existence threatened (Humphries, 1977).

Seriously addressing the problem, student personnel leaders sought to become a vital part of the university by developing a philosophical base which placed their programs in the mainstream of the educational process. By re-defining their role as student development educators they attempted to respond to the needs of the new students. Assuming a proactive rather than a reactive posture, and

viewing the total development of the student, they began to build programs based upon the research of behavioral scientists and theorists of human development. Thus student development educators took a different view and responded to what had been happening in higher education in totally different ways from their former professional style (Miller and Prince, 1976; Crookston, 1976; Humphries, 1977).

The developmental approach recognized that human development was a continuous and cumulative process of growth and that there were abilities and skills that facilitated growth which could be learned and taught. It further recognized that development was more likely to take place in an environment in which change was expected and that the most effective development was produced by systematic integration of cognitive, affective, and psychomotor experiences (Miller and Prince, 1976).

In order to meet the developmental needs of the non-traditional students, more knowledge of the ways in which they dealt with academic problems was needed. Since Carl Gustave Jung's theory of psychological types was based on the ways people prefer to use their mental processes, it was of great potential value to student development educators. It provided a basis for recognizing individual differences. Development of the Myers-Briggs Type Indicator, also known as MBTI, enabled educators to assess the individual differences which Jung's theory identified (Myers, 1962).

There was a need for student development educators to understand the reason for the apparent success of traditional students and lack of success of the non-traditional students. Research on teaching and learning using the MBTI suggested that academic success was related to differences in psychological types (McBee, 1976; Cross, 1976a, 1976b; Nash, Saurman, Sousa, 1975; Myers, 1962; McCaulley, 1976; Lawrence, 1979).

STATEMENT OF THE PROBLEM

The problem was the advent to the nation's campuses of "new" types of students who did not meet the requirements for success. The research sought to answer the question of why they did not succeed. The research endeavored to study the academic success of college freshmen in terms of Jungian psychological types and sought to answer the specific question: Are there differences in psychological types among freshmen students in grade point averages, advanced placement, remedial placement, enrollment in special programs, scholarship awards, unselected majors, resignations and withdrawals?

THEORETICAL FRAMEWORK

Carl Gustave Jung (1921:332), the Swiss physician-psychologist, developed a theory of psychological types which postulated that differences in human behavior which

appeared to be mere idiosyncrasies or random variations were not a matter of isolated individual instances but typical attitudes which were orderly and consistent. The differences derived from the way people preferred to use their mental processes. He believed that the preference for type was in the individual's disposition. He stated that, "Ultimately, it must be the individual disposition which decides whether the child will belong to this or that type despite the constancy of external conditions."

Jung postulated two attitude-types which he termed extraversion and introversion, distinguished by the direction of the individual's interest toward the outer world of people and objects or toward the inner world of ideas and concepts. In addition, he postulated four function-types which he termed sensation, intuition, thinking, and feeling. These four function-types varied further according to the general attitude of introversion or extraversion, thus resulting in eight variants.

The Myers-Briggs Type Indicator was developed by Isabel Briggs Myers (Myers, 1962:1), its purpose being, ". . . to implement Jung's theory of type [1923]." It was published in 1962 by Educational Testing Service and has been used widely in educational research.

In developing the scoring for the Indicator, Myers used the Jungian polarities of Extraversion-Introversion, Sensation-Intuition, and Thinking-Feeling as scales. She

added a scale describing a preference for using judgment or perception in the extraverted attitude, thus designating a person's type by a four-letter formula. The four-letter designations were E or I for a preference for extraversion or introversion, S or N for a preference for sensation or intuition, T or F for a preference for thinking or feeling, and J or P for a preference for judgment or perception. Combinations of the four scales generated sixteen types as shown in Figure 1.

Figure 1

Type Table Showing the 16 Preference Types

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

The Indicator has been used in studies involving the teaching and learning processes. A number of these studies were reviewed in Chapter 2. Researchers have found type differences in academic aptitude, achievement, motivation, and learning and teaching styles.

This study was based on the assumption that the Myers-Briggs Type Indicator was a valid and reliable

instrument for determining the psychological types as postulated by Carl G. Jung. A complete discussion of validity and reliability of the MBTI was included in Chapter 2.

PROCEDURE

SELECTION OF THE POPULATION

The population studied included 1041 full-time freshman students enrolled at Nicholls who completed the Myers-Briggs Type Indicator in the fall semester of 1978.

DELIMITATIONS

Students enrolled in the English course designed for foreign students were not included in the study.

TEST MEASURES ADMINISTERED

During the fourth week of the fall 1973 semester, the Myers-Briggs Type Indicator was administered to all students in 71 sections of freshman English, except the one section of English for foreign students. These students were eliminated from the study because of their lack of facility with the English language. The scores of only the full-time freshman students were used for the study. The Indicator was administered a second time four weeks later to 51 students of the identified population who were absent

on the original testing date. Letters were written to the 147 students who also missed the second test or whose answer sheets were incomplete. They were asked to report to the Student Development Office for the third, and final, testing. A copy of the letter is included in Appendix A.

ADDITIONAL DATA COLLECTED

At the close of the fall 1978 semester, additional data which were pertinent to the students, were secured from the Data Processing Center as follows: grade point averages, enrollment in advanced placement classes, enrollment in remedial placement classes, enrollment in special programs, scholarship recipients, enrollment in General Studies (unselected major), resignation from the university, and withdrawal from one or more classes.

STATISTICAL ANALYSIS OF THE DATA

Statistical procedures used were Analysis of Variance and Chi-square. All hypotheses were tested against the null at the .01 level of confidence.

DEFINITION OF TERMS

Advanced placement - students whose ACT scores permitted them to register in advanced sections of English and Mathematics; specifically English 102 and Mathematics 102

or 165.

Freshman - a student entering college for the first time.

Full-time student - one who had registered for a minimum of twelve semester hours.

Grade point average - the ratio of quality points and hours earned in which an A grade was equal to 4 quality points.

Remedial placement - students whose ACT scores required their registering for English 95 and/or Math 90.

Resignation from the university - complete official withdrawal, noted on the student's grade report as "Resigned."

Scholarship awards - three academic scholarships awarded to incoming freshmen at Nicholls on the basis of ACT scores and interviews. They were the Board of Trustees Academic Scholarships, the Nicholls State University Academic Scholarships, and the President's Scholars.

Special courses - the first, a program of courses for the development of basic skills in reading, writing, and computation; the second, an honors English course designated as English 105.

Student development - application of the philosophy and principles of human development in the educational setting (Crookston, 1976).

Unselected major - enrollment in the General Studies curriculum.

Withdrawal - dropping of a course for which the student received a grade of "W," permissible up to the beginning of the final examination period.

SUMMARY

Changes in student personnel work and the advent of "new" types of students to the college campuses were described in this chapter. The need for workers in student development to know more about these students was shown and the potential for identifying them by psychological types was presented. This research sought to study the academic success of college freshmen in terms of psychological types.

Chapter 2

REVIEW OF THE LITERATURE

This chapter reviewed the pertinent literature on Student Personnel in general and the student development approach in particular; it reviewed Jung's theory of psychological types, the development of the Myers-Briggs Type Indicator (MBTI) and research using it.

HISTORICAL OVERVIEW OF STUDENT PERSONNEL

> The student personnel function has a long history in higher education. This history must be thoroughly examined before the higher education community today can assess the future of the student personnel professional (Humphries, 1977:59).

Since the school has been the institution designed by society for the purpose of perpetuating itself, the changes which occurred in the society at large have been reflected in its institutions of learning. As the rate of change increased, it became progressively more difficult for society and its institutions to maintain a sense of balance. In the sixties, with the advent of student unrest, the emancipation of eighteen-year-olds, the demise of in-loco-parentis philosophy (Wise, 1976), and the concepts of consumer advocacy (Beeler, 1976; Hodgkinson, 1976; Cross, 1972) not only higher education as a whole, but the field of student personnel in particular experienced an identity

crisis.

In a profession or an institution, when such a crisis occurred the courses of action which might have been taken were to examine their purposes or to define their reasons for existence. Both might have been accomplished through a search for their roots and a backward look through history (Humphries, 1977).

Although the student personnel function was not new and had been an integral part of the higher education process for centuries, the student personnel administrators were a product of the twentieth century (Humphries, 1977). To trace the history of the field was difficult for the profession because there was little recorded data. For example, in the histories of over four hundred institutions of higher education, there was little mention of the recognition of the achievements of student personnel divisions. One was forced to conclude that either nothing of note was done or that records were not provided. The latter was more probable since prior to the turn of the century, student personnel work was generally ascribed to the faculty and not to a particular administrator. Also, since the nature of the work in the past was oriented to problems calling for immediate action, little time had been spent in reflecting about the institutional role of the profession (Rhatigan, 1974).

Although much of the profession's past was lost because it was not compiled, what was known from articles

which appeared in the journals of the associations comprising the field, was that the profession suffered a shattering of its raison e'etre with the disappearance of in-loco-parentis philosophy (Bevilacqua, 1976; Crookston, 1976). With the onset of its identity crisis, student personnel professionals responded by defining their roles and re-assessing their status. They chose to impact the future by moving from a traditionally reactive to a proactive approach (ACPA, 1974) and to undergird their profession with a philosophical goal and the means of achieving it to which they gave the name "student development" (Miller and Prince; Crookston, 1976).

THE STUDENT DEVELOPMENT APPROACH

One could not know for certain whether the student development approach was new because of the lack of historical data (Rhatigan, 1974), but one suspected that the roots of the movement did, indeed, lie buried in the past. An event which had an impact on the growth of the profession occurred in 1968 when the American College Personnel Association responded to the need for direction by appointing a task force to head its Tomorrow's Higher Education Project, hereafter referred to as T.H.E. Project.

The report of Phase One of the eight-year project called for a closer alliance with the fundamental goals and premises of higher education (Brown, 1972). The report of

Phase Two identified philosophical and theoretical foundations of the profession and set forth a role definition for the student development educator (Miller and Prince, 1976).

Burns Crookston (1976:28), a giant of the student personnel movement, in writing what turned out to be his farewell statement, declared student development not to be a new concept but

> . . . a return to holism reinforced with the unerring vision of hindsight. Freed at last from the necessity of exercising the benevolent control of the parent and from adherence to the remedial model of counseling, professionals in our field, within a time-frame of only a few years, have found themselves free to relate to students not on the basis of status, but competency; not reactively, but proactively.

Student development educators had always seen themselves as proponents of the "whole" person philosophy (Sanford, 1967). However, it was possible that because they also saw themselves or that others saw them as complementing the teaching and research missions of the university (Cowley, 1964) their role had been viewed as an ancillary one. Heretofore they made their contributions in separate, "extra" or noncurricular programs which came to be known as student services. This accounted at least in part for their invisibility.

Espousing that the time had now come to eliminate this inequity, the T.H.E. Project set forth six basic foundations of the student development approach (Miller and Prince, 1976:5-6).

1. Human development is a continuous and cumula-

tive process of physical, psychological, and social growth which can be divided into an orderly series of life stages. Each stage is characterized by certain developmental tasks that require the human to alter his or her present behavior and master new learning;

2. Development is most likely to occur in an environment where change is anticipated, where individuals and groups work together to actively influence the future rather than just reacting to it after the fact;

3. Systematic integration of cognitive, affective, and psychomotor experiences produces the most effective development;

4. Several abilities and skills that facilitate growth in others have been identified; these can be learned, used, and taught by student development educators;

5. The individual's development can be advanced by exposure to an organized problem-solving process that enables him or her to complete increasingly complex developmental tasks;

6. Development is enhanced when students, faculty members and student affairs practitioners work collaboratively to promote the continuous development of all.

With a new role definition and building upon the research of behavioral scientists and theorists of human development such as Havighurst, Piaget, Maslow, Erickson, Kohlberg, and others, student development educators took a different view of what had been happening in higher education and responded in totally different ways.

Through the development of a variety of programs designed to assist students in acquiring the knowledge and skills needed to effect positive change through goal-setting, growth assessment, milieu management, instruction, consultation, and evaluation (Miller et als, 1976), the profession

gained a visibility and made a way for itself to have an impact on the future of higher education.

NEED FOR CURRICULAR REFORM

In response to the declaration that higher education had lost its way (Gallagher, 1974; Katz and Associates, 1968), that the college experience engendered no more meaningful change than could be expected by chance in any living environment whether or not it was educationally oriented (Feldman, Newcomb, 1969), and that many graduates were not satisfied with their college experience in terms of personal development (Wise, 1976; Hodgkinson, 1976), the challenge to the field was great. The influx of new kinds of students whose backgrounds were unlike those of students in the past added to the confusion (Chickering, 1973; Cross, 1972) and called for new procedures (Bushnell and Zagaris, 1972; McBee, 1976; Hodgkinson, 1976).

Nash, Saurman and Sousa (1976) saw the role of the student development educators as humanistic teachers seeking a move from a "remedial" to a "developmental" concept in teaching the new learners and including curricular reform as a part of their professional function.

Voices within the profession called for student development educators not only to influence instruction but to develop curricula in the area of their expertise to meet the need for the reaffirmation of the human concerns of

individuals through more attention to their personal and interpersonal development (Cross, 1976; Crookston, 1973). Hodinko (1973) declared student development to be a central teaching function of the college and regarded the integration of student personnel and instructional programs as a vital concern. Cross (1972:22) wrote: "I am personally convinced that the profession will not make much impact until we get into where the action is--the curriculum."

Carl Jung's theory of psychological types provided a basis for much of the work of a student development educator. Because it was a theory of individual differences, any application of it made the focus student-centered. It promised to be a valuable aid in personal development as well as in interpersonal development. Existing research indicated that type differences affected the teaching-learning process. This made the theory useful in instructional reform as well as in curriculum development as a means of personalizing the educational process. Since, according to Jung's theory, the development of mental processes was orderly, student development educators could find further use for this as a developmental theory in its own right. For all of these reasons, the concept of psychological types deserved close scrutiny in the field of education.

JUNG'S THEORY OF PSYCHOLOGICAL TYPES

Jung (1971) postulated in his theory of psychological

types that differences in human behavior which appeared to be mere idiosyncrasies or random variations were not a matter of isolated idividual instances but typical attitudes which were orderly and consistent. The differences derived from the ways people preferred to use their mental processes. He believed that the preference for type was a matter of individual disposition.

Jung (1971:xv) said of his theory that ". . . it provides a system of classification and a practical guide to a good judgment of human character." He regretted that people thought that his method consisted of fitting patients into a system and merely giving them advice accordingly. He regretted also the mistaken notion that his typology lent itself to putting labels on people, to a static rather than a dynamic system. He likened labeling people to playing parlor games and reiterated that his theory was, ". . . not a physiognomy and not an anthropological system, but a critical psychology dealing with the organization and delimitation of psychic processes that can be shown to be typical."

TWO ATTITUDES

In developing his theory, Jung (1971:517) discerned two "attitude-types." These were denoted by preferences for extraversion or introversion. He distinguished them by their direction of interest--to the outer world of people

and objects in extraversion or to the inner world of ideas and concepts in introversion. Of the two attitudes he said,

> This is indeed the basic feature of the extraverted attitude: psychic life is, as it were, enacted outside the individual in objects and objective relationships. The introvert, on the contrary, always acts as though the object possessed a superior power over him against which he has to defend himself. His real world is the inner one.

He noted that for the extravert, everything of value was in the object, and for the introvert, the value was in the subject.

FOUR BASIC FUNCTIONS

For Jung (1964:60-61) extraversion and introversion were just two rather obvious peculiarities of human nature. He recognized that the conscious psyche consisted of a number of different functions such as will power, memory, imagination, temperament, and others. However, in searching for those which would assist him in classifying the apparently limitless variations in the individual, he distinguished four basic ones: sensation, thinking, feeling, and intuition. He likened these to the four points of a compass with thinking being opposite feeling, and sensation being opposite intuition. He said of them:

> Sensation (i.e., sense perception) tells you that something exists; thinking tells you what it is; feeling tells you whether it is agreeable or not; and intuition tells you whence it comes and where it is going.

The four basic functions were the means by which people oriented themselves to their immediate surroundings. He likened them to the use of longitude and latitude in locating a place geographically.

In a more in-depth explanation, he defined sensation as one of the four basic psychological functions which mediated the perception of physical stimuli either external or internal. Since it was not subject to rational laws, he termed it an irrational function. He spoke of intuition also as an irrational function which mediated perceptions in an unconscious way. Although it presented itself as a sense perception, a thought or a feeling, it was not any of these but was a content which just seemed to appear without the person being able to explain how it came to be.

He defined thinking as following the laws of reason while arranging ideas by means of concepts. Since it was done consciously and in accord with reason, he termed it a rational function. Feeling was the imparting of a definite value to a content. It, too, was regarded as rational in that values are in general classified by the laws of reason.

Hence, of Jung's four basic functions, two, sensation and intuition, were irrational or lacking in rational direction. The two remaining functions, thinking and feeling, were rational or based on reason. The latter were decisively influenced by reflection while the former were forced to dispense with reason in order to be purely perceptive.

TYPE DEVELOPMENT

For complete orientation, according to Jung (1971: 518) all four functions should contribute equally. In reality this was not the case since the functions were not equally at conscious disposal. One was more differentiated, hence more conscious than the others. A person became identified with the most developed function, thus giving rise to a psychological type. For example, if a person dwelled only on concrete reality without thinking about it or taking its value into consideration and had little regard for the possibilities in a situation, this person was a sensation (S) type. If the person was oriented only by what he thought, it would be difficult to adapt to any situation not understood intellectually; he was a thinking (T) type. A person concerned simply with whether things were pleasant or unpleasant was a feeling (F) type, and one constantly lured by possibilities in situations which were abandoned when no further possibilities existed was an intuitive (N) type. The attitudes of extraversion or introversion when combined with the two dominant mental functions gave rise to the eight types identified by Jung as follows: four extraverted types--ES, EN, EF and ET and four introverted types--IS, IN, IF, and IT.

In normal type development, after a dominant function had begun to be differentiated, a second function of a different orientation developed as auxiliary or complimentary

in order to provide balance. If the principal function was an irrational one, either sensation or intuition, then the auxiliary function was a rational one, either thinking or feeling. If the principal function was a rational one, then the auxiliary function was an irrational one.

As type development continued, a third function which was the opposite of the auxiliary began to be differentiated. The last to develop was the opposite of the dominant function and never reached complete consciousness. As a consequence of the one-sided development of the dominant function, the others were developed to a lesser degree, hence the Jungian terminology, "inferior functions."

Jung reiterated that type was dynamic and not static and that a person continued to grow and develop throughout life. He warned that classification into type did not explain the individual psyche but that a knowledge of type enhanced one's understanding of human behavior. He regarded the value of his theory of psychologival types to be in providing a system of comparison and orientation.

THE MYERS-BRIGGS TYPE INDICATOR

The Myers-Briggs Type Indicator was developed by Isabel Briggs Myers with a view toward application of the Jungian type theory. After its establishment as a valid and reliable testing instrument, it was published in 1962 by the Educational Testing Service. Growth of the Indicator's use

in research has been steady since its publication. The Center for the Applications of Psychological Type (CAPT) in Gainesville, Florida has scored over 119,000 MBTI answer sheets since 1970 and stored the information in its data bank (McCaulley, 1978).

The remainder of this chapter reviewed the literature as it referred to: (1) Development of the MBTI, (2) Validity, (3) Reliability, (4) Scoring of the MBTI, (5) Use of the MBTI, and (6) Research Findings Using the MBTI.

DEVELOPMENT OF THE MBTI

As a student at Swarthmore College, Isabel Briggs met Clarence Myers and brought him home with her to meet her parents. Isabel's mother, Katharine Cook Briggs, struck with how different the young man was from other people she had known, developed an interest in individual differences. She read biographies of successful people to ascertain and classify the differences in characteristics which contributed to their success. She developed a type system with six types which, according to Myers (1962:Acknowledgments), "foreshadowed all the [Jungian] preferences except sensation-intuition." The first English translation of Jung's theory was published in 1923 and from that point on the work of Isabel Briggs Myers was based on the theory of psychological types of Carl G. Jung (McCaulley, 1979; Williams, 1977).

Isabel, with the help of her mother, developed a

paper and pencil test which would ascertain a person's type in accord with Jung's theory. She (Myers, 1962) accepted the Jungian premise that differences in human behavior were orderly and consistent resulting from individual preferences in the use of perception and judgment. Assuming that if people differed systematically in perception and judgment that they may also show systematic differences in their interests, values, and reactions, she developed a self-report instrument of basic preferences. The work continued through the 1940's and 1950's. It was published as the Myers-Briggs Type Indicator, also called MBTI, by the Educational Testing Service of Princeton, New Jersey in 1962. Their research on the characteristics of successful people led them to the use of the MBTI to determine the suitability of people to the careers they had chosen (McCaulley, 1979; Williams, 1977).

Isabel's father, Lyman Briggs, was then the head of the Bureau of Standards in Washington, D. C. He shared his own enthusiasm for the work and findings of his daughter and his wife relative to psychological types and careers with the Dean of the Medical School at George Washington University. Isabel did her first work using the Indicator she had developed with the Association of Medical Colleges. As a result, she possessed the most complete longitudinal research study of medical students on record (McCaulley, 1979).

RELIABILITY

Myers (1962) reported that the reliability of the MBTI was investigated using a logically-split-half procedure with groups of both males and females from junior high school to college. The ranges of internal-consistency reliability estimates for the MBTI scales for groups at varying levels of education were summarized in Table 1. The Junior High and High School estimates were reported by Myers (1962), the College estimates by Carlyn (1977), and the Medical School estimates by McCaulley (1978).

Myers (1962:19) noted that the lowest coefficients were with 8th grade low-achieving and 12th grade "non-prep" groups. This led her to indicate that the reliability of the MBTI was assumed to be related to ". . . the extent to which the person has developed the processes and attitudes he prefers. . . ." She added that the underdevelopment of the TF functions could have been typical of these populations.

According to McCaulley (1978:20), it was a mistake to assume that all persons of a given type had developed equally in their preferences. She indicated that

> Mature type development assumes (a) a knowledge of one's preferences, (b) a development of one's preferred functions to a level where they are trustworthy and reliable, (c) a respect for, and adequate development of less-preferred functions, (d) a good command of both perception and judgment, and appropriate use of each, (e) the ability to function effectively and comfortably in both the extraverted and introverted attitudes, and (f) a continuing

growth and development in gaining command over all four functions and their uses.

Table 1

Ranges of Internal-Consistency Reliability Estimates of MBTI Continuous Scores

MBTI Scales	Junior High School Range	High School Range	College Range	Medical School (One)
EI	.80 - .85	.77 - .87	.71 - .84	.86
SN	.75 - .84	.70 - .86	.75 - .90	.88
TF	.44 - .84	.60 - .84	.67 - .86	.80
JP	.71 - .82	.79 - .94	.80 - .84	.88

VALIDITY

Myers (1962), Carlyn (1977), and McCaulley (1978:27) reported extensive research in correlating the MBTI scales with those of other instruments. With the Gray-Wheelwright Psychological Type Questionnaire which purported to measure the Jungian opposites, correlations were .79, .58, and .60 respectively.

The ranges of significant product moment correlations of the MBTI continuous scores with the Personal Research Inventory, the Edwards Personal Preference Schedule, the Allport-Vernon-Lindzey Study of Values, the Strong Vocational Interest Blank, and the non-test variable of faculty ratings as reported by Myers were given in Table 2.

Table 2

Ranges of Significant Product-Moment Correlations of MBTI Continuous Scores with Other Instruments

MBTI Scales	Instruments				
	PRI	EPPS	A-V-L	SVIB	Faculty Ratings
EI	-.70 to .22	-.28 to .19	-.20 to .11	-.37 to .37	-.32 to .27
SN	-.31 to .42	-.34 to .31	-.46 to .34	-.49 to .44	-.17 to .20
TF	-.25 to .23	-.30 to .51	-.37 to .29	-.22 to .21	.17
JP	-.36 to .39	-.49 to .31	-.12 to .16	-.24 to .20	-.22 to .20

Note:

PRI: Personal Research Inventory
EPPS: Edwards Personal Preference Schedule
A-V-L: Allport-Vernon-Lindzey Study of Values
SVIB: Strong Vocational Interest Blank

Significance: .01 level

Table 3

Ranges of Significant Product-Moment Correlations
MBTI Continuous Scores with Other Instruments
in Medical Student Samples

MBTI Scales	Instruments			
	16 PFT	OPI	OAI	A-V-L
EI	-.76 to .52	-.77 to .15	-.55 to .49	None
SN	-.44 to .46	-.67 to .62	-.36 to .46	-.58 to .50
TF	-.29 to .37	-.36 to .29	-.56 to .23	-.42 to .38
JP	-.57 to .40	-.41 to .57	-.42 to .38	-.54

Note:

16 PFT: 16 Personality Factor Test
OPI: Omnibus Personality Inventory
OAI: Opinion, Attitude, and Interest Survey
A-V-L: Allport-Vernon-Lindzey Study of Values

Significance: .01 level

Similar ranges of significant correlations were presented in Table 3 for the 16 Personality Factor Test; Omnibus Personality Inventory; Opinion, Attitude, and Interest Survey; and the Allport-Vernon-Lindzey Study of Values in medical student samples as reported by McCaulley. Further construct validity was shown by the Myers Longitudinal Medical Sample which McCaulley termed, "One of the major research efforts concerned with predictive validity of the MBTI . . . ."

SCORING OF THE MBTI

In developing the scoring for the Indicator, Myers used the Jungian polarities of Extraversion-Introversion, Sensation-Intuition, and Thinking-Feeling as scales. She added a scale describing a preference for using the Jungian rational and irrational processes which she termed Judgment and Perception, respectively. Thus, a person's type was designated by a four-letter formula. The four-letter designations were E or I indicating a preference for Extraversion or Introversion, S or N indicating a preference for Sensation or Intuition, T or F indicating a preference for Thinking or Feeling, and J or P indicating a preference for Judgment or Perception in the extraverted attitude. Combinations of the four scales generated sixteen types, each indicated by a four-letter formula. Figures 2 and 3, designed by Mary H. McCaulley and published by the Center

for the Applications of Psychological Type, showed graphically (1) how the four preferences were scored to arrive at a person's type, (2) the location of the sixteen types on the type table, and (3) a description of the theory illustrated by a type table showing the relationships of the dominant and auxiliary functions for each of the sixteen types. The four columns of the table showed the combinations of perception and judgment and the four quadrants showed the combinations of attitude and perception.

USE OF THE INDICATOR

As the number of users of the Indicator grew and as more research was initiated, a Typology Laboratory was established at the University of Florida in Gainesville with Dr. Mary H. McCaulley, a clinical psychologist with the University Health Center, as Director.

McCaulley (1978:3) wrote that a program to provide computer scoring of the MBTI was developed by Isabel Briggs Myers and Mary H. McCaulley, ". . . as a research tool for their cooperative research to individualize the MBTI." The research was designed specifically to assist people with the study and with the application of psychological type theory.

The year 1975 was an important year for the Myers-Briggs Type Indicator. Users met for the first National Conference on the Use of the MBTI. Publication of the

Figure 2

Part I

MYERS-BRIGGS TYPE INDICATOR

UNDERSTANDING THE TYPE TABLE

FOUR PREFERENCES ARE SCORED TO ARRIVE AT A PERSON'S TYPE

DOES THE PERSON'S INTEREST FLOW MAINLY TO

E	I
THE OUTER WORLD OF ACTIONS, OBJECTS AND PERSONS?	THE INNER WORLD OF CONCEPTS AND IDEAS?
EXTRAVERSION	INTROVERSION

DOES THE PERSON PREFER TO PERCEIVE

S	N
THE IMMEDIATE, REAL, PRACTICAL FACTS OF EXPERIENCE AND LIFE?	THE POSSIBILITIES, RELATIONSHIPS AND MEANINGS OF EXPERIENCES?
SENSING	INTUITION

DOES THE PERSON PREFER TO MAKE JUDGMENTS OR DECISIONS

T	F
OBJECTIVELY, IMPERSONALLY, CONSIDERING CAUSES OF EVENTS & WHERE DECISIONS MAY LEAD?	SUBJECTIVELY AND PERSONALLY, WEIGHING VALUES OF CHOICES & HOW THEY MATTER TO OTHERS?
THINKING	FEELING

DOES THE PERSON PREFER MOSTLY TO LIVE

J	P
IN A DECISIVE, PLANNED AND ORDERLY WAY, AIMING TO REGULATE & CONTROL EVENTS?	IN A SPONTANEOUS, FLEXIBLE WAY, AIMING TO UNDERSTAND LIFE AND ADAPT TO IT?
JUDGMENT	PERCEPTION

THE LOCATION OF THE 16 PREFERENCE TYPES ON THE TYPE TABLE

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

EXTRAVERSION-INTROVERSION

I
E

SENSING-INTUITION

S	N

THINKING-FEELING

T	F	T

JUDGMENT-PERCEPTION

J
P
J

Figure 3

Part 2
Understanding the Type Table

THE THEORY: DOMINANT AND AUXILIARY FUNCTIONS FOR EACH TYPE

According to Jung's theory of psychological types, everyone uses all four *functions* (S, N, T, F), and adopts all four *attitudes* (E, I, J, P). The types are called *preference types* because people in each type prefer one of the two *perceptive functions* (S or N), and one of the two *judgment functions* (T or F). These preferences appear in the 2 middle letters of the type formula. Types also differ in the functions they prefer to use when in the introverted or extraverted attitudes.

The most preferred, or favorite, or *dominant function*, is extraverted in E types and introverted in I types. The second favorite or *auxiliary function* is introverted in E types and extraverted in I types. The type table below shows these relationships for each of the 16 MBTI types.

ISTJ INTROVERTED SENSING with Thinking Sensing is dominant and introverted Thinking is auxiliary and extraverted	**ISFJ** INTROVERTED SENSING with Feeling Sensing is dominant and introverted Feeling is auxiliary and extraverted	**INFJ** INTROVERTED INTUITION with Feeling Intuition is dominant and introverted Feeling is auxiliary and extraverted	**INTJ** INTROVERTED INTUITION with Thinking Intuition is dominant and introverted Thinking is auxiliary and extraverted
ISTP INTROVERTED THINKING with Sensing Thinking is dominant and introverted Sensing is auxiliary and extraverted	**ISFP** INTROVERTED FEELING with Sensing Feeling is dominant and introverted Sensing is auxiliary and extraverted	**INFP** INTROVERTED FEELING with Intuition Feeling is dominant and introverted Intuition is auxiliary and extraverted	**INTP** INTROVERTED THINKING with Intuition Thinking is dominant and introverted Intuition is auxiliary and extraverted
ESTP EXTRAVERTED SENSING with Thinking Sensing is dominant and extraverted Thinking is auxiliary and introverted	**ESFP** EXTRAVERTED SENSING with Feeling Sensing is dominant and extraverted Feeling is auxiliary and introverted	**ENFP** EXTRAVERTED INTUITION with Feeling Intuition is dominant and extraverted Feeling is auxiliary and introverted	**ENTP** EXTRAVERTED INTUITION with Thinking Intuition is dominant and extraverted Thinking is auxiliary and introverted
ESTJ EXTRAVERTED THINKING with Sensing Thinking is dominant and extraverted Sensing is auxiliary and introverted	**ESFJ** EXTRAVERTED FEELING with Sensing Feeling is dominant and extraverted Sensing is auxiliary and introverted	**ENFJ** EXTRAVERTED FEELING with Intuition Feeling is dominant and extraverted Intuition is auxiliary and introverted	**ENTJ** EXTRAVERTED THINKING with Intuition Thinking is dominant and extraverted Intuition is auxiliary and introverted

THE 4 COLUMNS: COMBINATIONS OF PERCEPTION AND JUDGMENT

SENSING PLUS THINKING	SENSING PLUS FEELING	INTUITION PLUS FEELING	INTUITION PLUS THINKING
ST	**SF**	**NF**	**NT**
PRACTICAL AND MATTER-OF-FACT	SYMPATHETIC AND FRIENDLY	ENTHUSIASTIC AND INSIGHTFUL	LOGICAL AND INGENIOUS
Like using abilities in	Like using abilities in	Like using abilities in	Like using abilities in
TECHNICAL SKILLS WITH FACTS AND OBJECTS	PRACTICAL HELP AND SERVICES FOR PEOPLE	UNDERSTANDING & COMMUNICATING WITH PEOPLE	THEORETICAL AND TECHNICAL DEVELOPMENTS
for example in	for example in	for example in	for example in
Applied science Business Production Construction *and many more*	Patient care Community service Sales Teaching *and many more*	Behavioral science Research Literature & art Teaching *and many more*	Physical Science Research Management Forecasts & Analysis *and many more*

THE 4 QUADRANTS: COMBINATIONS OF ATTITUDE AND PERCEPTION

INTROVERSION AND SENSING **IS** KNOWLEDGE IS IMPORTANT TO ESTABLISH TRUTH "THOUGHTFUL REALISTS"	INTROVERSION AND INTUITION **IN** KNOWLEDGE IS IMPORTANT FOR ITS OWN SAKE "THOUGHTFUL INNOVATORS"
EXTRAVERSION AND SENSING **ES** KNOWLEDGE IS IMPORTANT FOR PRACTICAL USE "ACTION-ORIENTED REALISTS"	EXTRAVERSION AND INTUITION **EN** KNOWLEDGE IS IMPORTANT FOR CREATING CHANGE "ACTION-ORIENTED INNOVATORS"

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Indicator was taken over by Consulting Psychologists Press of Palo Alto, California and the Center for the Applications or Psychological Type (CAPT), was established in Gainesville. The center provided the only scoring service available. As a result, a large data bank of over 75,000 cases had accrued (McCaulley, 1978).

RESEARCH FINDINGS USING THE MBTI

Much of the research concerning the MBTI came from Florida where a typology laboratory had been set up in Gainesville to handle the data generated through use of the Indicator at the University of Florida. This laboratory was the forerunner of the Center for the Applications of Psychological Type which had a data bank dating back to the 1950's when the instrument was first used as a research instrument by Myers (1962). In addition to the data bank consisting of over 119,000 cases, other services to enhance research were available to users (McCaulley, 1979).

Dr. Mary McCaulley (1977:9), Director of the Center and Professor of Clinical Psychology at the University of Florida, asserted that researchers were finding type differences in academic aptitude, achievement, motivation, learning style, and teaching style. According to McCaulley, teachers at the University of Florida reported that, ". . . type theory had given them a powerful tool in understanding why they can reach some students more easily than others."

They reported also that they have developed greater respect for both colleagues and students whose minds worked differently from their own. In addition, McCaulley reported that, ". . . the use of type as an organizing principle increased the power of prediction in educational research."

A bibliography of research studies, theses, dissertations and non-research work in which the Myers-Briggs Type Indicator was used was made available from the Center.

ACADEMIC APTITUDE AND ACHIEVEMENT

Researchers indicated that introverts with intuition tended to score highest on measures of academic aptitude, and extraverts with sensing scored lowest. The quadrants were usually ranked IN, EN, IS, ES with IN highest and ES lowest (Barberrouse, 1965; Conary, 1965; Damico and Dalsheimer, 1974; May, 1971; McCaulley and Natter, 1974; Myers, 1962; Myers and Davis, 1964; Reynolds and Hope, 1970; Stricker, Schiffman and Ross, 1965).

In the area of academic achievement, it was reported that judging types tended to achieve higher grades for a given level of aptitude than did the perceptive types. The systematic, organized work attitudes of the judging types and their willingness to work out of duty, even when interest was not high, resulted in the achievement of better grades (McCaulley and Natter, 1974; Myers, 1962; Nichols and Holland, 1963; Reynolds and Hope, 1970). The judging types

were probably the students who had been labeled as "over-achievers" and the perceptive types as "under-achievers." It appeared from the literature that the intuitives were highest in aptitude and that those with a preference for judging were higher in achievement.

MOTIVATION AND READING

McCaulley and Natter (1974:118-122) reported that while intuitive types scored higher on measures of aptitude based on reading and writing, sensing types "who are . . . more interested in the real thing than in the words about it" scored very well on tests where they were motivated and saw a practical use. On the Florida Everyday Living Test Sensing types scored a mean of 38.9 and Intuitive types scored 40.2, probably due to the fact that it was a very practical test on everyday essential skills. On the Florida 12th grade test the difference widened with a mean of 52.3 for Sensing and 71.4 for Intuition. In fact, the intuitive types scored higher on ten of eleven measures related to reading ability.

Other type differences reported at the Governor's Task Force on Disrupted Youth were as follows:

> INTP had the second highest reading rate plus a high comprehension.
> ESTP ranked first in reading rate but were low in comprehension.

MATH AND SCIENCE

The Florida State University Developmental School also investigated the Sensing-Intuition Difference in Mathematics and Science Measures (McCaulley and Natter, 1974:122). They found that intuitives significantly outscored sensing types in five out of eight mathematics measures and two out of three science measures, with the major difference attributed to problem-solving skills as opposed to computational skills. As with reading, the sensing scores were not significantly different on the 8th grade Everyday Living Test which measured practical skills.

Myers (McCaulley and Natter, 1974:128) in a paper which pleaded for the schools to take type differences into account presented a thought-provoking comparison of sensing and intuitive types at different levels of scholastic achievement as seen in Table 4.

GRADE POINT AVERAGES

Further data from Phase II of the Governor's Task Force on Disrupted Youth (McCaulley and Natter, 1974:138-147) reported some 35 academic measures for each of the dominant psychological types and for two combinations at the Florida State University Developmental School. Pertinent to this study were the differences in grade point averages among the types which were summarized in the data

Table 4

Relative Frequency of Sensing and Intuitive Types at Different Levels of Scholastic Achievement (From the Governor's Task Force for Disrupted Youth, 1974)

Groups Studied	N	Sensing	Intuitive
National Merit Scholarship Finalists	671	17.0%	83.0%
Ivy League College Freshmen	3676	41.0%	59.0%
Pennsylvania High Schools Academic 11th and 12th Graders	3505	85.0%	15.0%
Adults Who Did Not Finish 8th Grade	500	99.6%	0.4%

shown in Table 5.

Myers (1962:39-46) correlated type with grade point average of males and females in high schools and colleges and found that introverts and intuitives tended to have higher grades. She further found that J students tended to have higher grades in spite of lower aptitudes, and concluded that the main contributions to scholastic success were I, N, and J. She theorized that the difference was not due to intelligence as measured by IQ but to the difference in type.

TYPE DISTRIBUTION

McCaulley (1979) indicated that the distribution of

Table 5

Differences in Grade Point Averages Among Psychological Types in Florida Study (From Governor's Task Force for Disrupted Youth, 1974)

Type	Grade Point Average	
	N	Mean
Extraversion	284	3.40
Introversion	229	3.11
Sensing	303	3.04
Intuition	210	3.22
Thinking	149	3.15
Feeling	364	3.10
Judging	187	3.12
Perception	326	3.11
Introversion and Intuition	93	3.30
Extraversion and Intuition	117	3.16
Introversion and Sensing	136	2.98
Extraversion and Sensing	167	3.08

types in the general population showed that E's outnumbered I's and S's outnumbered N's in a ratio of 3 to 1. Lawrence (1979) reported that because of this, the ES quadrant was the heaviest, and 50% of the students in any given classroom were ES types. This was not generally the case in a college classroom because by that time in the formal education process, students had categorized themselves, as more of the IN types elected to attend college. Because types were not equally distributed in the general population, different

populations have different type patterns.

Calculating a frequency ratio for the 16 types in different kinds of colleges, Myers (1962:46) found certain relationships between psychological type and type of college selected. For example, Liberal Arts Colleges, she suggested, are for NF and IN, particularly INF because of the NF's interest in language. The same group would select medicine because of "IN's interest in a profession and F's interest in nurturance."

Grant (1977:1) reported on responses to a questionnaire of 1413 freshman students at Auburn University which he analyzed according to MBTI Type. He reported that ". . . responses significantly chosen by . . . a particular type but not significantly chosen by students of any other type" were similar to type descriptions presented in the MBTI manual.

DROPOUTS

Myers (1978:4) studied dropouts in both Nursing and Medicine. Of 5355 medical students the highest dropout rate was among the E_ _J types. Among nurses the highest dropout rates were the _N_P and the _S_P types. Myers (1976) recommended that schools collect and analyze data on their own students showing for each type the actual dropouts occurring at various percentiles of aptitude.

SUMMARY

This chapter has reviewed the literature in (1) student personnel, (2) the psychological types of Carl Jung, (3) the use of the Myers-Briggs Type Indicator, and (4) research using the MBTI and the relationship of type to academic success.

Chapter 3

PROCEDURE

Permission for the study was obtained and plans for collecting the data were made before the beginning of the fall semester 1978. Refer to Appendix A. Collection of data began during the fourth week of the semester with the administration of the MBTI and additional data were collected at the end of the semester. The procedure was detailed in the following paragraphs.

MBTI

In order to insure that all full-time entering freshmen were offered the opportunity to take the MBTI, selection was made of the freshman English classes for its administration since only in exceptional cases was a freshman student permitted to enroll as a full-time student without enrolling in English. Based on the final class lists for all sections of freshman English, the MBTI's and answer sheets were packaged and labeled as to teacher, section, and number in the class. The seventy-one packets, one for each of the class sections, contained the necessary materials and were delivered to the chairman of the English Department whose staff had agreed to cooperate in the study. Instructions for administration of the Indicator were

attached to each packet. Administration took place at the Tuesday, Wednesday, and/or Thursday class meetings during the fourth week of the semester. Mid-week was chosen as a time least likely to have absentees, and the fourth week was selecred in order to insure a stabilized enrollment. The MBTI was given to all students enrolled in all regular sections of freshman English. The answer sheets were collected and any that were incomplete were eliminated. Absentees and those students whose MBTI's were incomplete were contacted by letter and many reported. (Refer to Appendix A.) A total of 1041 usable answer sheets were mailed to CAPT in Gainesville, Florida for scoring.

ADDITIONAL DATA COLLECTED

At the close of the semester the Nicholls Data Processing Center provided the following data for each full-time freshman who completed the semester:

Grade point average
Advanced placement: English 102, Math 102, and Math 163
Remedial placement: English 95 and Math 90
Special programs enrollment: English 105 (Honors) Student Development 115, 116, 117, 125, 126 (Developmental)
Scholarship awards
Curriculum
Resignation
Withdrawal from one or more courses

PREDICTIONS

In accord with Jung's theory of psychological types

and based on research using the MBTI, the following predictions were made:

In regard to grade point averages (1) the _N_J types have the highest grade point averages, (2) the IN quadrant of the type table is highest in grade point average, and (3) the ES quadrant is lowest.

In regard to advanced placement there are (1) more N types in all courses, (2) more IN types in all courses, (3) more NF types in the English course, and (4) more NT types in the mathematics courses.

In regard to remedial placement there are (1) more S types in remedial courses, (2) more ES types in remedial courses, (3) more SF types in the mathematics course, and (4) more ST types in the English course.

In regard to special programs there are (1) more N types in the Honors Program, (2) more S types in the Developmental Program, (3) more IN types in the Honors Program, (4) more ES types in the Developmental Program, (5) more NF types in the Honors since it is an English program, and (6) more S types in the developmental reading courses.

In regard to scholarship awards there are (1) more N types and (2) more EN and NF types since the awards are given partly on the basis of interviews.

In regard to unselected majors there are (1) more P types and (2) more I_ _P types.

In regard to resignations there are (1) more P types and (2) more ES types.

In regard to withdrawals there are (1) more P types and (2) more ES types.

The MBTI's were scored and the data put on computer tape at CAPT in Gainesville, Florida. The additional data gathered at Nicholls were put on computer tape in the Nicholls Data Processing Center. The two tapes were merged at Louisiana State University System Network Computer Center (SNCC) through the Department of Experimental Statistics.

The computer program Statistical Package for the Social Sciences (SPSS) was used to compute a one-way analysis of variance for each of the two variables, grade point average and withdrawals, and to test whether the means of the subgroups into which the population data were divided were significantly different from each other.

The two variables, grade point average and number of withdrawals, were broken down by all letters of the type table individually and in combination as follows: Type, EI, SN, TF, JP, Rows (reading across the table), Columns (reading down the table), SNJP, TFJP, and Quadrants (the four quarters of the table). Refer to Figures 2 and 3, pages 31 and 32. In essence 44 analyses were performed as if they were independent of one another. A one-way analysis of variance was used to test the hypotheses of no

difference for significance at the .01 level of probability.

The remaining variables, advanced placement, remedial placement, enrollment in special programs, scholarship awards, unselected majors and resignations, were cross tabulated by Type, EI, SN, TF, JP, Rows, Columns, SNJP, TFJP, and Quadrants.

Contingency tables were set up by the SPSS for the variables, advanced and remedial placement, special programs, scholarship awards, unselected majors and resignations.

The resulting frequencies were used in the Selection Ratio Type Table (SRTT) program. The distributions of MBTI types in each of the subgroups in comparison with the total population of the study were displayed in the form of Selection Ratio Type Tables. The Chi-square or Fisher's Exact Probability statistics were used to determine whether there were any significant overrepresentations or underrepresentations of any of the subgroups compared to the base population. Significance was indicated at the .01 and .001 levels of probability.

SUMMARY

This chapter has detailed the procedures for collecting the data for this study and the statistical procedures used for computing them. The programs used were the SPSS and SRTT. The statistics used were the one-way

Analysis of Variance and Chi-square.

The data were presented and analyzed in Chapter 4.

Chapter 4

PRESENTATION AND ANALYSIS OF DATA

Data obtained from CAPT of the MBTI scores of Nicholls freshmen and the information on their academic success obtained from the Nicholls Data Processing Center were recorded on tape, merged and tabulated at the LSU System Network Computer Center.

In this chapter the data were presented and analyzed in terms of (1) type distribution and (2) type differences in regard to grade point average, advanced placement, remedial placement, enrollment in special programs, scholarship awards, unselected majors, resignations and withdrawals.

TYPE DISTRIBUTION

The one thousand forty-one MBTI scores as tabulated were entered on a type table (see Table 6). The number of each type and the percent of each in the total population were shown. The data showed the breakdown of the EI, SN, TF and JP preferences as to number and percent; breakdown of the rows, columns, and quadrants of the tables as to number and percent; and the same data given as to the SNJP and TFJP preferences. (Refer to Figure 2, Chapter 1).

The rank order of types as to number in each was shown in Table 7.

Table 6

Nicholls State University
Entering Freshmen
Fall 1978
N = 1041

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 78 % = 7.5	*ISFJ* N = 89 % = 8.6	*INFJ* N = 19 % = 1.8	*INTJ* N = 17 % = 1.6	JUDGING
ISTP N = 45 % = 4.3	*ISFP* N = 79 % = 7.6	*INFP* N = 53 % = 5.1	*INTP* N = 23 % = 2.2	PERCEPTIVE
ESTP N = 81 % = 7.8	*ESFP* N = 109 % = 10.5	*ENFP* N = 96 % = 9.2	*ENTP* N = 39 % = 3.7	PERCEPTIVE
ESTJ N = 114 % = 11	*ESFJ* N = 136 % = 13.1	*ENFJ* N = 41 % = 3.9	*ENTJ* N = 22 % = 2.1	JUDGING

INTROVERTS

EXTRAVERTS

	N	Percent
E	638	61.3
I	403	37.7
S	731	70.2
N	310	29.8
T	419	40.3
F	622	59.7
J	516	49.6
P	525	50.4
IJ	203	19.5
IP	200	19.2
EP	325	31.2
EJ	313	30.1
ST	318	30.5
SF	413	39.7
NF	209	20.1
NT	101	9.7
SJ	417	40.0
SP	314	30.2
NP	211	20.3
NJ	99	9.5
TJ	231	22.2
TP	188	18.1
FP	337	32.4
FJ	285	27.4
IN	112	10.8
EN	198	19.0
IS	291	28.0
ES	440	42.2

Table 7

Rank Order of Types According to Number and Percent in Total Population

Type	Rank	Percent	N
ESFJ	1	13.1%	136
ESTJ	2	11.0%	114
ESFP	3	10.5%	109
ENFP	4	9.2%	96
ISFJ	5	8.6%	89
ESTP	6	7.8%	81
ISFP	7	7.6%	79
ISTJ	8	7.5%	78
INFP	9	5.1%	53
ISTP	10	4.3%	45
ENFJ	11	3.9%	41
ENTP	12	3.8%	39
INTP	13	2.2%	23
ENTJ	14	2.1%	22
INFJ	15	1.8%	19
INTJ	16	1.6%	17

The distribution in terms of IE preference which in the general population showed E's outnumbering I's 75% to 25%, had E's outnumbering I's 61.3% to 38.7%. I's were expected to be in greater proportion in a college population.

The type distribution in terms of SN preference approximated but was not the same as the 3 to 1 ratio of S types to N types in the general population. S types were 70.2% of the Nicholls freshmen and N types were 29.8%. N's were in slightly greater number than in the general population.

In terms of type distribution, the quadrants ranked as expected in the following order: ES, 42.2%; IS, 28.0%; EN, 19.0%; and IN, 10.8%.

In summary, there was a higher proportion of I's and N's in the Nicholls population than in the general population which is to be expected in a college group.

TYPE DIFFERENCES IN TERMS OF GRADE POINT AVERAGE

The types as ranked in terms of mean grade point average were shown in the data presented in Table 8. It showed the rank order, from highest to lowest, the mean, standard deviation, and total number in each of the types.

The analysis of variance produced an F-ratio of 2.296 with 15 degrees of freedom which was significant at the .01 level.

The ENTJ type ranked first and the INTJ type which

Table 8

Rank Order of Types According to Mean Grade Point Average

Type	Rank	Mean	S. D.	N
ENTJ	1	3.1230	.6524	21
ENFJ	2	2.8910	.6677	41
INFJ	3	2.8703	.8376	19
INFP	4	2.8101	.7405	52
ISFJ	5	2.7731	.7482	88
ISTJ	6	2.7291	.8402	76
ENTP	7	2.7124	.6685	38
ESFJ	8	2.6492	.8552	131
ESFP	9	2.6128	.7391	108
INTP	10	2.6052	.7842	23
ENFP	11	2.5996	.7759	92
ISFP	12	2.5880	.7663	75
ESTP	13	2.4948	.6417	78
ESTJ	14	2.4542	.9789	110
ISTP	15	2.4108	.9947	42
INTJ	16	2.3533	1.2419	14

Note: Resignations were recorded as zero grades; therefore, in calculations of grade point averages they were excluded. There were 33 resignations leaving a total population of 1008.

is reportedly the "most academic" of all the types ranked last. This group had the fewest number and largest spread of scores as indicated by a standard deviation of 1.2419.

Table 9 showed the mean grade point averages for the opposite preferences of the four MBTI scales. The data showed that the E types scored higher than the I types, the N types scored higher than the S types, the F types scored higher than the T types and the J types scored higher than the P types. None of these findings were significant at the .01 level. The F-ratios were shown in the table. The data in Table 10 showed the rank order of the SNJP preference in terms of the mean grade point average, the standard deviation and number of each preference.

The NJ types ranked highest in mean grade point averages as predicted. The differences on the SNJP preference were significant at the .01 level. [F=3.504 df=3 sig.=.0087]

In the Quadrants of the type table, the rankings were as follows: EN ranked first, IN ranked second, IS ranked third, and ES ranked fourth. The data in Table 11 showed the rank order of the quadrants in terms of mean grade point average.

The differences among the quadrants, IN, EN, IS, ES, were not significant at the .01 level. [F=2.781 df=3 sig.=.0400] The prediction that the IN quadrant had the highest mean grade point average was not borne out. The

Table 9

Mean Grade Point Averages for the Opposites of the Four MBTI Scales

Preference	Mean GPA	S. D.	N
E	2.6743	.8058	619
I	2.6187	.8305	389
S	2.5997	.8277	708
N	2.7357	.7750	300
T	2.5761	.8678	402
F	2.6827	.7766	606
J	2.6817	.8678	500
P	2.5492	.7591	508

EI F=1.112 df=1 sig.=0.2918
SN F=5.893 df=1 sig.=0.0154
TF F=4.145 df=1 sig.=0.0420
JP F=2.583 df=1 sig.=0.1083

Table 10

Rank Order of SNJP Preference in Terms of Mean Grade Point Average

Type	Rank	Mean GPA	S. D.	N
NJ	1	2.8677	.8289	95
NP	2	2.6745	.7490	205
SJ	3	2.6402	.8719	405
SP	4	2.5483	.7629	303

F=3.504 df=3 sig.=.0087

Table 11

Rank Order of Quadrants According to Mean Grade Point Average

Quadrant	Rank	Mean GPA	S. D.	N
EN	1	2.7458	.7386	192
IN	2	2.7178	.8494	108
IS	3	2.6576	.8241	281
ES	4	2.5616	.8288	427

F=2.781 df=3 sig.=0.0400

prediction that the ES quadrant has the lowest mean grade point average was borne out.

The rank order of the IEJP Preferences (rows of the type table) was shown in Table 12 and that of the TFJP Preferences in Table 13. The data in both tables indicated the consistently higher scores for the J types over the P types.

The rank order of the SNTF Preferences in Terms of Mean Grade Point Average are shown in Table 14. The data indicate the higher scores of the F types over the T types.

The data concerning type differences in terms of advanced placement, remedial placement, enrollment in special services, scholarship awards, unselected majors, resignations and withdrawals were tabulated by computer, analyzed using the Chi-square statistic and presented in the form of Selection Ratio Type Tables (SRTT). The data in the SRTT tables showed the comparison of the type distributions of the groups studied with the total freshman population which provided the expected frequencies. These tables showed the sixteen types, the type groupings, the direction of the differences shown, and the probability that the differences observed could have occurred by chance alone. These data were analyzed in terms of the predictions made.

TYPE DIFFERENCES IN TERMS OF ADVANCED PLACEMENT

The data in Table 15 showed the total number of students who were enrolled in advanced placement courses, the

Table 12

Rank Order of IEJP (Rows) Preference in Terms of Mean Grade Point Average

Type	Rank	Mean GPA	S. D.	N
IJ	1	2.7356	.8355	197
EJ	2	2.6467	.8877	303
IP	3	2.6115	.8228	192
EP	4	2.5918	.7189	316

F=1.357 df=3 sig.=0.2545

Table 13

Rank Order of the TFJP Preference in Terms of Mean Grade Point Average

Type	Rank	Mean GPA	S. D.	N
FJ	1	2.7388	.7972	279
FP	2	2.6348	.7565	327
TJ	3	2.6097	.8556	221
TP	4	2.5350	.7616	181

F=2.483 df=3 sig.=.0595

Table 14

Rank Order of SNTF (Columns) Preferences in Terms of Mean Grade Point Average

Type	Rank	Mean GPA	S. D.	N
NF	1	2.7370	.7576	204
NT	2	2.7325	.8267	56
SF	3	2.6551	.7856	402
ST	4	2.5268	.8759	306

F=3.413 df=3 sig.=0.0170

number of each of the MBTI types, the percent of the total number in advanced placement who were in each type category, and the self selection index which was the ratio of the percent of the type among the entering freshmen to the percent in advanced placement. The data in Table 16 gave the same information for the students who were enrolled in advanced placement in English and the data in Table 17 gave the same information for the students who were enrolled in advanced placement in mathematics.

The prediction that there were more N types was significant at the .001 level. [Chi^2=36.50] There were 65 students or 53.28% of the 122 students in advanced placement to show this preference. This produced a selection ratio of 1.79 indicating that there were one and four-fifths as many of the N type as could be expected from their

Table 15

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP
TABULATED

ENTERYNG FRESHMEN
FALL 1978

ADVANCED PLACEMENT

N= 122

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX
RATIO OF PERCENT OF TYPE
IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 13	N= 6	N= 1	N= 1
(=10.66	(= 4.92	(= 0.82	(= 0.82
I= 1.42	I= 0.58	I= 0.45	I= 0.50
I S T P	I S F P	I N F P	I N T P
N= 7	N= 7	N= 12	N= 5
(= 5.74	(= 5.74	(= 9.84	(= 4.10
I= 1.33	I= 0.76	I= 1.93	I= 1.85
E S T P	E S F P	E N F P	E N T P
N= 2	N= 6	N= 21	N= 12
(= 1.64	(= 4.92	(=17.21	(= 9.84
I= 0.21	I= 0.47	I= 1.87=	I= 2.63*
E S T J	E S F J	E N F J	E N T J
N= 6	N= 10	N= 5	N= 8
(= 4.92	(= 8.20	(= 4.10	(= 6.56
I= 0.45	I= 0.63	I= 1.04	I= 3.10*

			N	(	I
JUDGING		E	70	57.38	0.94
		I	52	42.62	1.10
		S	57	46.72	0.67*
		N	65	53.28	1.79*
	INTROVERTS	T	54	44.26	1.10
		F	68	55.74	0.93
		J	50	40.98	0.83
		P	72	59.02	1.17
		IJ	21	17.21	0.88
		IP	31	25.41	1.32
		EP	41	33.61	1.08
		EJ	29	23.77	0.79
PERCEPTIVES		ST	28	22.95	0.75
		SF	29	23.77	0.60*
		NF	39	31.97	1.59*
		NT	26	21.31	2.20*
		SJ	35	28.69	0.72=
		SP	22	18.03	0.60=
	EXTRAVERTS	NP	50	40.98	2.02*
		NJ	15	12.30	1.29
		TJ	28	22.95	1.03
JUDGING		TP	26	21.31	1.18
		FP	46	37.70	1.16
		FJ	22	18.03	0.66
		IN	19	15.57	1.45
		EN	46	37.70	1.98*
		IS	33	27.05	0.97
		ES	24	19.67	0.47*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS0
IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO0
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

				E	0.89	IJ	0.46	SJ	7.44		3.34
				I	0.89	IP	3.42	SP	9.65	EN	31.32
1.99	2.33	0.50	0.70			EP	0.37	NP	36.69	IS	0.06
				S	36.50	EJ	2.61	NJ	1.25	ES	28.91
0.67	0.68	6.44	0.18	N	36.50						
						ST	3.76	TJ	0.05		
0.01	4.55	10.54	14.21	T	0.93	SF	14.60	TP	0.99		
				F	0.93	NF	12.18	FP	1.79		
5.16	2.88	0.99	13.19			NT	21.26	FJ	6.07		
				J	4.07						
				P	4.07						

Table 16

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP
TABULATED.

ENTERING FRESHMEN
FALL 1978
ADVANCED PLACEMENT
ENGLISH

N= 21

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX
RATIO OF PERCENT OF TYPE
IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 1	N= 1	N= 0	N= 0
(= 4.76	(= 4.76	(= 0.0	(= 0.0
I= 0.64	I= 0.56	I= 0.0	I= 0.0
I S T P	I S F P	I N F P	I N T P
N= 2	N= 1	N= 4	N= 0
(= 9.52	(= 4.76	(=19.05	(= 0.0
I= 2.20	I= 0.63	I= 3.74	I= 0.0
E S T P	E S F P	E N F P	E N T P
N= 1	N= 0	N= 4	N= 3
(= 4.76	(= 0.0	(=19.05	(=14.29
I= 0.61	I= 0.0	I= 2.07	I= 3.81
E S T J	E S F J	E N F J	E N T J
N= 1	N= 1	N= 1	N= 1
(= 4.76	(= 4.76	(= 4.76	(= 4.76
I= 0.43	I= 0.36	I= 1.21	I= 2.25

			N	(	I
JUDGING		E	12	57.14	0.93
		I	9	42.86	1.11
		S	8	38.10	0.54=
		N	13	61.90	2.08=
	I	T	9	42.86	1.06
	N	F	12	57.14	0.96
	T	J	6	28.57	0.58
	R	P	15	71.43	1.42
	O	IJ	2	9.52	0.49
	V	IP	7	33.33	1.73
	E	EP	8	38.10	1.22
	R	EJ	4	19.05	0.63
	T	ST	5	23.81	0.78
	S	SF	3	14.29	0.36
PERCEPTIVES		NF	9	42.86	2.13=
		NT	4	19.05	1.96
		SJ	4	19.05	0.48
		SP	4	19.05	0.63
	EXTRAVERTS	NP	11	52.38	2.58*
		NJ	2	9.52	1.00
		TJ	3	14.29	0.64
		TP	6	28.57	1.58
		FP	9	42.86	1.32
		FJ	3	14.29	0.52
JUDGING		IN	4	19.05	1.77
		EN	9	42.86	2.25=
		IS	5	23.81	0.85
		ES	3	14.29	0.34

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS0
IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO0
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.72 0.71 0.99 0.99
0.23 0.72 0.02 1.00
0.72 0.15 0.12 0.04
0.50 0.34 0.99 0.36

E	0.16	IJ	0.16	SJ	0.28	IN	0.27
I	0.16	IP	2.75	SP	0.34	EN	7.91
S	10.58	EP	0.47	NP	13.68	IS	0.80
N		EJ	0.34	NJ	0.99	ES	0.01
T	0.06	ST	0.63	TJ	0.44		
F	0.06	SF	0.02	TP	1.60		
J	3.78	NF	6.93	FP	1.08		
P	3.78	NT	0.25	FJ	0.22		

Table 17

SOURCE OF DATA:

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP TABULATED:

ENTERING FRESHMEN
FALL 1978
ADVANCED PLACEMENT
MATHEMATICS

N= 101

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 12	N= 5	N= 1	N= 1
(=11.88	(= 4.95	(= 0.99	(= 0.99
I= 1.59	I= 0.58	I= 0.54	I= 0.61
I S T P	I S F P	I N F P	I N T P
N= 5	N= 6	N= 8	N= 5
(= 4.95	(= 5.94	(= 7.92	(= 4.95
I= 1.15	I= 0.78	I= 1.56	I= 2.24
E S T P	E S F P	E N F P	E N T P
N= 1	N= 6	N= 17	N= 9
(= 0.99	(= 5.94	(=16.83	(= 8.91
I= 0.13=	I= 0.57	I= 1.83=	I= 2.38=
E S T J	E S F J	E N F J	E N T J
N= 5	N= 9	N= 4	N= 7
(= 4.95	(= 8.91	(= 3.96	(= 6.93
I= 0.45	I= 0.68	I= 1.01	I= 3.28*

			N	(	I
JUDGING		E	58	57.43	0.94
		I	43	42.57	1.10
		S	49	48.51	0.69*
		N	52	51.49	1.73*
INTROVERTS	I	T	45	44.55	1.11
	N	F	56	55.45	0.93
	T	J	44	43.56	0.88
	R	P	57	56.44	1.12
	O	IJ	19	18.81	0.96
	V	IP	24	23.76	1.24
	E	EP	33	32.67	1.05
	R	EJ	25	24.75	0.82
PERCEPTIVES	T	ST	23	22.77	0.75
	S	SF	26	25.74	0.65=
		NF	30	29.70	1.48
		NT	22	21.78	2.25*
		SJ	31	30.69	0.77
		SP	18	17.82	0.59=
EXTRAVERTS	E	NP	39	38.61	1.91*
	X	NJ	13	12.87	1.35
	T	TJ	25	24.75	1.12
	R	TP	20	19.80	1.10
	A	FP	37	36.63	1.13
	V	FJ	19	18.81	0.69
JUDGING	E	IN	15	14.85	1.38
	R	EN	37	36.63	1.93*
	T	IS	28	27.72	0.99
	S	ES	21	20.79	0.49*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOSO
IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

3.11	0.19	0.71	0.71
0.79	0.43	1.85	0.06
0.01	2.45	7.74	8.27
0.04	1.70	0.99	12.55

E	0.70	IJ	0.03	SJ	4.09	IN	1.95
I	0.70	IP	1.49	SP	8.09	EN	22.53
		EP	0.11	NP	23.29	IS	0.00
S	25.20	EJ	1.50	NJ	1.47	ES	21.14
N	25.20						
		ST	3.19	TJ	0.43		
T	0.86	SF	9.07	TP	0.23		
F	0.86	NF	6.46	FP	0.93		
		NT	18.63	FJ	4.13		
J	1.61						
P	1.61						

frequency in the total population.

The IN group of 19 or 15.5% showed a ratio of 1.45 which was not significant. [Chi^2=3.34]

The NF types in advanced placement in English numbered 9 of 21 which was significant at the .01 level. [Chi^2=6.93] The NT types in advanced placement in mathematics numbered 22 of 101 which was significant at the .001 level. [Chi^2=18.63]

TYPE DIFFERENCES IN TERMS OF REMEDIAL PLACEMENT

The data in Table 18 showed the total number of students in remedial placement courses, the number of each of the MBTI types in remedial placement, the percent of the total number in each type category and the self selection index which was the ratio of the percent of the type among the entering freshmen to the percent in remedial placement. The data in Tables 19 and 20 gave the same information for students who were enrolled in remedial English and mathematics, respectively.

The prediction that there were more S types was significant at the .001 level. [Chi^2=43.51] There were 411 students or 45.54% of the 516 students in remedial placement to show this preference. This produced a selection ratio of 1.13.

The ES type of 250 or 31.20% showed a selection ratio of 1.15 which was significant at the .001 level.

Table 18

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP TABULATED

ENTERING FRESHMEN
FALL 1978

REMEDIAL PLACEMENT

N= 516

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 41	N= 51	N= 8	N= 10
(= 7.95	(= 9.88	(= 1.55	(= 1.94
I= 1.06	I= 1.16	I= 0.85	I= 1.19
I S T P	I S F P	I N F P	I N T P
N= 25	N= 44	N= 11	N= 9
(= 4.84	(= 8.53	(= 2.13	(= 1.74
I= 1.12	I= 1.12	I= 0.42*	I= 0.79
E S T P	E S F P	E N F P	E N T P
N= 48	N= 52	N= 31	N= 15
(= 9.30	(=10.08	(= 6.01	(= 2.91
I= 1.20	I= 0.96	I= 0.65*	I= 0.78
E S T J	E S F J	E N F J	E N T J
N= 79	N= 71	N= 13	N= 8
(=15.31	(=13.76	(= 2.52	(= 1.55
I= 1.40*	I= 1.05	I= 0.64	I= 0.73

		N	(	I
JUDGING	E	317	61.43	1.00
	I	199	38.57	1.00
PERCEPTIVES	S	411	79.65	1.13*
	N	105	20.35	0.68*
INTROVERTS	T	235	45.54	1.13*
	F	281	54.46	0.91*
EXTRAVERTS	J	281	54.46	1.10=
	P	235	45.54	0.90=
JUDGING	IJ	110	21.32	1.09
	IP	89	17.25	0.90
PERCEPTIVES	EP	146	28.29	0.91
	EJ	171	33.14	1.10
INTROVERTS	ST	193	37.40	1.22*
	SF	218	42.25	1.06
EXTRAVERTS	NF	63	12.21	0.61*
	NT	42	8.14	0.84
JUDGING	SJ	242	46.90	1.17*
	SP	169	32.75	1.09
PERCEPTIVES	NP	66	12.79	0.63*
	NJ	39	7.56	0.79
EXTRAVERTS	TJ	138	26.74	1.21*
	TP	97	18.80	1.04
JUDGING	FP	138	26.74	0.83*
	FJ	143	27.71	1.01
PERCEPTIVES	IN	38	7.36	0.68*
	EN	67	12.98	0.68*
	IS	161	31.20	1.12
	ES	250	48.45	1.15*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS0
IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. = 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. = 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. = 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.30	2.33	0.43	0.59
0.67	1.28	18.55	1.02
3.30	0.17	12.63	2.00
19.94	0.44	5.45	1.57

E	0.01	IJ	2.15	SJ	19.95	IN	12.28
I	0.01	IP	2.54	SP	3.25	EN	24.20
		EP	4.08	NP	35.41	IS	5.36
S	43.51	EJ	4.59	NJ	4.53	ES	16.03
N	43.51						
		ST	22.67	TJ	12.29		
T	11.92	SF	2.83	TP	0.38		
F	11.92	NF	39.47	FP	14.81		
		NT	2.85	FJ	0.06		
J	9.79						
P	9.79						

Table 19

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP TABULATED

ENTERING FRESHMEN
FALL 1978
REMEDIAL PLACEMENT
ENGLISH

N= 426

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 37	N= 44	N= 2	N= 8
(= 8.69	(=10.33	(= 0.47	(= 1.88
I= 1.16	I= 1.21	I= 0.26=	I= 1.15
I S T P	I S F P	I N F P	I N T P
N= 23	N= 33	N= 7	N= 6
(= 5.40	(= 7.75	(= 1.64	(= 1.41
I= 1.25	I= 1.02	I= 0.32*	I= 0.64
E S T P	E S F P	E N F P	E N T P
N= 42	N= 46	N= 24	N= 12
(= 9.86	(=10.80	(= 5.63	(= 2.82
I= 1.27	I= 1.03	I= 0.61*	I= 0.75
E S T J	E S F J	E N F J	E N T J
N= 72	N= 53	N= 9	N= 8
(=16.90	(=12.44	(= 2.11	(= 1.88
I= 1.54*	I= 0.95	I= 0.54	I= 0.89

		N	(	I
JUDGING	E	266	62.44	1.02
	I	160	37.56	0.97
	S	350	82.16	1.17*
	N	76	17.84	0.60*
INTROVERTS	T	208	48.83	1.21*
	F	218	51.17	0.86*
	J	233	54.69	1.10=
	P	193	45.31	0.90=
	IJ	91	21.36	1.10
	IP	69	16.20	0.84
	EP	124	29.11	0.93
	EJ	142	33.33	1.11
PERCEPTIVES	ST	174	40.85	1.34*
	SF	176	41.31	1.04
	NF	42	9.86	0.49*
	NT	34	7.98	0.82
	SJ	206	48.36	1.21*
	SP	144	33.80	1.12
EXTRAVERTS	NP	49	11.50	0.57*
	NJ	27	6.34	0.67=
	TJ	125	29.34	1.32*
	TP	83	19.48	1.08
JUDGING	FP	110	25.82	0.80*
	FJ	108	25.35	0.93
	IN	23	5.40	0.50*
	EN	53	12.44	0.65*
	IS	137	32.16	1.15
	ES	213	50.00	1.18*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOSO
= IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. = 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. = 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. = 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1641. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.48	2.92	0.01	0.27
2.02	0.03	17.74	2.14
4.34	0.08	11.09	1.73
26.18	0.25	6.35	0.19

E	0.40	IJ	1.59	SJ	20.68	IN	21.58
I	0.40	IP	4.22	SP	4.53	EN	20.26
		EP	1.50	NP	34.29	IS	6.33
S	49.15	EJ	3.66	NJ	8.43	ES	17.67
N	49.15						
		ST	36.04	TJ	21.37		
T	22.05	SF	0.81	TP	0.99		
F	22.05	NF	46.92	FP	14.14		
		NT	2.44	FJ	1.49		
J	7.58						
P	7.58						

Table 20

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP
TABULATED

ENTERING FRESHMEN
FALL 1978
REMEDIAL PLACEMENT
MATHEMATICS

N= 320

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 25	N= 30	N= 6	N= 5
(= 7.81	(= 9.38	(= 1.87	(= 1.56
I= 1.04	I= 1.10	I= 1.03	I= 0.96
I S T P	I S F P	I N F P	I N T P
N= 16	N= 25	N= 7	N= 7
(= 5.00	(= 7.81	(= 2.19	(= 2.19
I= 1.16	I= 1.03	I= 0.43=	I= 0.99
E S T P	E S F P	E N F P	E N T P
N= 33	N= 37	N= 18	N= 8
(=10.31	(=11.56	(= 5.62	(= 2.50
I= 1.33	I= 1.10	I= 0.61=	I= 0.67
E S T J	E S F J	E N F J	E N T J
N= 47	N= 40	N= 10	N= 6
(=14.69	(=12.50	(= 3.13	(= 1.87
I= 1.34=	I= 0.96	I= 0.79	I= 0.89

		N	(	I
JUDGING	E	199	62.19	1.01
	I	121	37.81	0.98
	S	253	79.06	1.13*
	N	67	20.94	0.70*
INTROVERTS	T	147	45.94	1.14
	F	173	54.06	0.90
	J	169	52.81	1.07
	P	151	47.19	0.94
	IJ	66	20.62	1.06
	IP	55	17.19	0.89
	EP	96	30.00	0.96
	EJ	103	32.19	1.07
PERCEPTIVES	ST	121	37.81	1.24*
	SF	132	41.25	1.04
	NF	41	12.81	0.64*
	NT	26	8.12	0.84
	SJ	142	44.37	1.11
	SP	111	34.69	1.15
EXTRAVERTS	NP	40	12.50	0.62*
	NJ	27	8.44	0.89
	TJ	83	25.94	1.17
	TP	64	20.00	1.11
JUDGING	FP	87	27.19	0.84
	FJ	86	26.87	0.98
	IN	25	7.81	0.73
	EN	42	13.12	0.69=
	IS	96	30.00	1.07
	ES	157	49.06	1.16=

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS0
IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOS
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.07	0.40	0.01	0.99
0.51	0.03	8.06	0.00
4.13	0.59	7.14	1.99
6.61	0.13	0.81	0.13

E	0.16	IJ	0.37	SJ	3.59	IN	4.18
I	0.16	IP	1.22	SP	4.49	EN	10.42
		EP	0.32	NP	17.26	IS	0.96
S	17.27	EJ	0.99	NJ	0.62	ES	8.74
N	17.27						
		ST	11.49	TJ	3.76		
T	6.22	SF	0.48	TP	1.18		
F	6.22	NF	15.19	FP	5.67		
		NT	1.31	FJ	0.06		
J	1.95						
P	1.95						

[Chi^2=16.03] The ST types in remedial English numbered 174 or 40.85% giving a selection ratio of 1.34, significant at the .001 level. [Chi^2=36.04] The SF types in remedial Mathematics numbered 132 or 41.25%, producing a selection ratio of 1.04 which was not significant. [Chi^2=0.48]

TYPE DIFFERENCES IN TERMS OF SPECIAL PROGRAMS

Table 21 showed the total number of students enrolled in the Honors Program, the number in the program of each of the MBTI types, the percent of the total in the program who were in each type category, and the selection ratio of the percent of the type among the entering freshmen to the percent in the Honors Program.

The prediction that there were more N types was significant at the .001 level. [Chi^2=20.06] There were 19 or 79.17% of the students enrolled in the Honors Program to show this preference which gave a selection ratio of 2.66. The IN group of 9 or 37.50% showed a selection ratio of 3.49 which was significant at the .001 level. [Chi^2=18.30] The NF types numbered 12 or 50.00% which produced a selection ratio of 2.49 which was significant at the .001 level. [Chi^2=13.71]

The data in Table 22 showed the total number of students who were enrolled in the Developmental Program, the number in the program of each of the MBTI groups, the percent of the total number enrolled who were in each type category, and the selection ratio which was the ratio of the

Table 21

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP
TABULATED

ENTERING FRESHMEN
FALL 1978

HONORS PROGRAM

N= 24

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 0	N= 1	N= 0	N= 0
(= 0.0	(= 4.17	(= 0.0	(= 0.0
I = 0.0	I = 0.49	I = 0.0	I = 0.0
I S T P	I S F P	I N F P	I N T P
N= 0	N= 0	N= 5	N= 4
(= 0.0	(= 0.0	(=20.83	(=16.67
I = 0.0	I = 0.0	I = 4.09=	I = 7.54=
E S T P	E S F P	E N F P	E N T P
N= 0	N= 2	N= 3	N= 1
(= 0.0	(= 8.33	(=12.50	(= 4.17
I = 0.0	I = 0.80	I = 1.36	I = 1.11
E S T J	E S F J	E N F J	E N T J
N= 0	N= 2	N= 4	N= 2
(= 0.0	(= 8.33	(=16.67	(= 8.33
I = 0.0	I = 0.64	I = 4.23	I = 3.94

		N	(	I
JUDGING	E	14	58.33	0.95
	I	10	41.67	1.08
PERCEPTIVES	S	5	20.83	0.30*
	N	19	79.17	2.66*
EXTRAVERTS	T	7	29.17	0.72
	F	17	70.83	1.19
	J	9	37.50	0.76
	P	15	62.50	1.24
	IJ	1	4.17	0.21
	IP	9	37.50	1.95
	EP	6	25.00	0.80
	EJ	8	33.33	1.11
	ST	0	0.0	0.0 =
	SF	5	20.83	0.53
	NF	12	50.00	2.49*
	NT	7	29.17	3.01=
	SJ	3	12.50	0.31=
	SP	2	8.33	0.28
	NP	13	54.17	2.67*
	NJ	6	25.00	2.63=
	TJ	2	8.33	0.38
	TP	5	20.83	1.15
	FP	10	41.67	1.29
	FJ	7	29.17	1.07
	IN	9	37.50	3.49*
	EN	10	41.67	2.19=
	IS	1	4.17	0.15=
	ES	4	16.67	0.39

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS0
IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.25 0.52 0.99 0.99
0.42 0.25 0.01 0.00
0.25 0.77 0.71 1.00
0.10 0.56 0.01 0.09

E	0.09	IJ	0.07	SJ	0.01	IN	18.30
I	0.09	IP	5.29	SP	0.02	EN	8.18
		EP	0.44	NP	17.47	IS	0.01
S	0.00	EJ	0.12	NJ	6.85	ES	0.01
N	0.00						
		ST	0.00	TJ	0.13		
T	1.25	SF	0.06	TP	0.78		
F	1.25	NF	13.71	FP	0.97		
		NT	10.62	FJ	0.04		
J	1.43						
P	1.43						

Table 22

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP TABULATED

ENTERING FRESHMEN
FALL 1978

DEVELOPMENT PROGRAM

N= 222

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 20	N= 21	N= 1	N= 2
(= 9.01	(= 9.46	(= 0.45	(= 0.90
I= 1.20	I= 1.11	I= 0.25	I= 0.55
I S T P	I S F P	I N F P	I N T P
N= 9	N= 19	N= 4	N= 3
(= 4.05	(= 8.56	(= 1.80	(= 1.35
I= 0.94	I= 1.13	I= 0.35	I= 0.61
E S T P	E S F P	E N F P	E N T P
N= 26	N= 27	N= 8	N= 3
(=11.71	(=12.16	(= 3.60	(= 1.35
I= 1.51	I= 1.16	I= 0.39=	I= 0.36
E S T J	E S F J	E N F J	E N T J
N= 40	N= 30	N= 5	N= 4
(=18.02	(=13.51	(= 2.25	(= 1.80
I= 1.65*	I= 1.03	I= 0.57	I= 0.85

		N	(	I
JUDGING / INTROVERTS	E	143	64.41	1.05
	I	79	35.59	0.92
	S	192	86.49	1.23*
	N	30	13.51	0.45*
	T	107	48.20	1.20=
	F	115	51.80	0.37=
	J	123	55.41	1.12
	P	99	44.59	0.88
PERCEPTIVES / EXTRAVERTS	IJ	44	19.82	1.02
	IP	35	15.77	0.82
	EP	64	28.83	0.92
	EJ	79	35.59	1.18
	ST	95	42.79	1.40*
	SF	97	43.69	1.10
	NF	18	8.11	0.40*
	NT	12	5.41	0.56
	SJ	111	50.00	1.25*
	SP	81	36.49	1.21
	NP	18	8.11	0.40*
	NJ	12	5.41	0.57
JUDGING / EXTRAVERTS	TJ	66	29.73	1.34=
	TP	41	18.47	1.02
	FP	58	26.13	0.81
	FJ	57	25.68	0.94
	IN	10	4.50	0.42*
	EN	20	9.01	0.47*
	IS	69	31.08	1.11
	ES	123	55.41	1.31*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOSO
= IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.94	0.30	0.09	0.39
0.05	0.38	0.01	0.44
6.08	0.86	10.64	0.04
14.45	0.05	0.17	0.80

E	1.16	IJ	0.02	SJ	11.62	IN	11.50
I	1.16	IP	2.16	SP	5.36	EN	18.36
S	35.70	EP	0.75	NP	25.82	IS	1.37
N	35.70	EJ	4.09	NJ	5.52	ES	19.96
T	7.41	ST	19.94	TJ	9.29		
F	7.41	SF	1.91	TP	0.03		
J	3.85	NF	25.19	FP	5.03		
P	3.85	NT	5.95	FJ	0.41		

percent of the type among the entering freshmen to the percent in the Developmental Program. The data in Table 23 gave the same information for students in the developmental reading classes.

The prediction that there were more S types was significant at the .001 level. [Chi^2=35.70] There were 192 students or 86.49% of the students in the program to show this preference which gave a selection ratio of 1.23. The ES group of 123 or 55.41% showed a selection ratio of 1.31 which was significant at the .001 level. [Chi^2=19.96] In developmental reading classes, the S types numbered 25 or 80.65% of 31. The selection ratio of 1.15 was not significant. [Chi^2=1.66]

TYPE DIFFERENCES IN TERMS OF SCHOLARSHIP AWARDS

The data in Table 24 showed the total number of students who received scholarship awards, the number receiving awards of each of the MBTI types, the percent of the total scholarship winners who were in each type category, and the self selection index which was the ratio of the percent of the type among the entering freshmen to the percent receiving scholarship awards.

The prediction that there were more N types was significant at the .001 level. [Chi^2=16.90] There were 20 students or 62.50% of the 32 scholarship winners to show this preference which gave a selection ratio of 2.10

Table 23

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP TABULATED

ENTERING FRESHMEN
FALL 1978

READING DEVELOPMENT

N= 31

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 2	N= 0	N= 0	N= 0
(= 6.45	(= 0.0	(= 0.0	(= 0.0
I= 0.86	I= 0.0	I= 0.0	I= 0.0
I S T P	I S F P	I N F P	I N T P
N= 4	N= 4	N= 0	N= 1
(=12.90	(=12.90	(= 0.0	(= 3.23
I= 2.98	I= 1.70	I= 0.0	I= 1.46
E S T P	E S F P	E N F P	E N T P
N= 4	N= 1	N= 2	N= 0
(=12.90	(= 3.23	(= 6.45	(= 0.0
I= 1.66	I= 0.31	I= 0.70	I= 0.0
E S T J	E S F J	E N F J	E N T J
N= 6	N= 4	N= 2	N= 1
(=19.35	(=12.90	(= 6.45	(= 3.23
I= 1.77	I= 0.99	I= 1.64	I= 1.53

			N	(	I
JUDGING		E	20	54.52	1.65
		I	11	35.48	0.92
		S	25	80.65	1.15
		N	6	19.35	0.65
	I	T	18	58.06	1.44
	N	F	13	41.94	0.70
	T	J	15	48.39	0.98
	R	P	16	51.61	1.02
	O	IJ	2	6.45	0.33
	V	IP	9	29.03	1.51
	E	EP	7	22.58	0.72
	R	EJ	13	41.94	1.39
PERCEPTIVES	T	ST	16	51.61	1.69=
	S	SF	9	29.03	0.73
		NF	4	12.90	0.64
		NT	2	6.45	0.65
		SJ	12	38.71	0.97
		SP	13	41.94	1.39
	EXTRAVERTS	NP	3	9.68	0.46
		NJ	3	9.68	1.02
		TJ	9	29.03	1.31
JUDGING		TP	9	29.03	1.61
		FP	7	22.58	0.70
		FJ	6	19.35	0.71
		IN	1	3.23	0.30
		EN	5	16.13	0.85
		IS	10	32.26	1.15
		ES	15	48.39	1.14

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS0
IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.99 0.10 0.66 0.68
0.04 0.29 0.26 0.99
0.29 0.24 0.76 0.40
2.31 0.99 0.63 0.99

E	0.14	IJ	0.07	SJ	0.02	IN	0.24
I	0.14	IP	1.99	SP	2.10	EN	0.81
		EP	1.11	NP	0.17	IS	0.29
S	1.66	EJ	2.14	NJ	0.99	ES	0.49
N	1.66						
		ST	6.68	TJ	0.87		
T	4.22	SF	1.51	TP	2.60		
F	4.22	NF	0.37	FP	1.40		
		NT	0.58	FJ	1.03		
J	0.02						
P	0.02						

Table 24

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP TABULATED

ENTERING FRESHMEN
FALL 1978

SCHOLARSHIP WINNERS

N= 32

MBTI TYPE TABLE
CENTER FOR APPLICATIONS OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 2	N= 3	N= 0	N= 0
(= 6.25	(= 9.38	(= 0.0	(= 0.0
I= 0.83	I= 1.10	I= 0.0	I= 0.0
I S T P	I S F P	I N F P	I N T P
N= 1	N= 1	N= 4	N= 1
(= 3.13	(= 3.13	(=12.50	(= 3.13
I= 0.72	I= 0.41	I= 2.46	I= 1.41
E S T P	E S F P	E N F P	E N T P
N= 0	N= 0	N= 7	N= 4
(= 0.0	(= 0.0	(=21.88	(=12.50
I= 0.0	I= 0.0	I= 2.37	I= 3.34
E S T J	E S F J	E N F J	E N T J
N= 3	N= 2	N= 3	N= 1
(= 9.38	(= 6.25	(= 9.38	(= 3.13
I= 0.86	I= 0.48	I= 2.38	I= 1.48

		N	(	I
JUDGING	E	20	62.50	1.02
	I	12	37.50	0.97
	S	12	37.50	0.53*
	N	20	62.50	2.10*
INTROVERTS	T	12	37.50	0.93
	F	20	62.50	1.05
	J	14	43.75	0.88
	P	18	56.25	1.12
	IJ	5	15.63	0.80
	IP	7	21.88	1.14
	EP	11	34.38	1.10
PERCEPTIVES	EJ	9	28.13	0.94
	ST	6	18.75	0.61
	SF	6	18.75	0.47
	NF	14	43.75	2.18*
	NT	6	18.75	1.93
	SJ	10	31.25	0.78
	SP	2	6.25	0.21=
EXTRAVERTS	NP	16	50.00	2.47*
	NJ	4	12.50	1.31
	TJ	6	18.75	0.84
	TP	6	18.75	1.04
JUDGING	FP	12	37.50	1.16
	FJ	8	25.00	0.91
	IN	5	15.63	1.45
	EN	15	46.88	2.46*
	IS	7	21.88	0.78
	ES	5	15.63	0.37=

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOSO
IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER			
0.99	0.99	0.66	0.67
0.99	0.50	0.07	0.99
0.17	0.07	6.31	0.03
0.79	0.30	0.13	0.99

E	0.02	IJ	0.65	SJ	1.07	IN	0.38
I	0.02	IP	0.15	SP	0.00	EN	16.63
		EP	0.15	NP	18.06	IS	0.61
S	16.90	EJ	0.06	NJ	0.75	ES	0.00
N	16.90						
		ST	2.17	TJ	0.23		
T	0.10	SF	6.04	TP	0.01		
F	0.10	NF	11.53	FP	0.40		
		NT	3.08	FJ	0.09		
J	0.45						
P	0.45						

indicating that there were more than twice as many as would be expected from their frequency in the total sample. The EN group of 15 or 46.88% showed a ratio of 2.46 [Chi^2=16.63] and the NF group of 14 or 43.75% showed a ratio of 2.18 [Chi^2=11.53], both significant at the .001 level of probability.

TYPE DIFFERENCES IN TERMS OF UNSELECTED MAJORS

The data in Table 25 showed the total number of students with unselected majors, the number of each of the MBTI types, the percent of the total number of unselected majors in each type category, and the selection ratio which was the ratio of the percent of the type which showed this preference among the entering freshmen to the percent of the type with unselected majors.

The prediction that there were more P types was significant at the .001 level. [Chi^2=12.86] There were 101 or 63.52% of the 159 students to show this preference. This gave a selection ratio of 1.26 which indicated significance. The I_ _P group of 31 or 19.50% gave a selection ratio of 1.01 which was not significant. [Chi^2=0.01]

TYPE DIFFERENCES IN TERMS OF RESIGNATIONS

The data in Table 26 showed the total number of

Table 25

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP
TABULATED

ENTERING FRESHMEN
FALL 1978

UNSELECTED MAJORS

N= 159

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX
RATIO OF PERCENT OF TYPE
IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 10	N= 17	N= 1	N= 2
(= 6.29	(=10.69	(= 0.63	(= 1.26
I= 0.84	I= 1.25	I= 0.34	I= 0.77
I S T P	I S F P	I N F P	I N T P
N= 10	N= 13	N= 6	N= 2
(= 6.29	(= 8.18	(= 3.77	(= 1.26
I= 1.45	I= 1.08	I= 0.74	I= 0.57
E S T P	E S F P	E N F P	E N T P
N= 26	N= 22	N= 17	N= 5
(=16.35	(=13.84	(=10.69	(= 3.14
I= 2.10*	I= 1.32	I= 1.16	I= 0.84
E S T J	E S F J	E N F J	E N T J
N= 15	N= 10	N= 2	N= 1
(= 9.43	(= 6.29	(= 1.26	(= 0.63
I= 0.86	I= 0.48=	I= 0.32	I= 0.30

		N	(	I
JUDGING	E	98	61.64	1.01
	I	61	38.36	0.99
PERCEPTIVES	S	123	77.36	1.10
	N	36	22.64	0.76
INTROVERTS	T	71	44.65	1.11
	F	88	55.35	0.93
	J	58	36.48	0.74*
	P	101	63.52	1.26*
EXTRAVERTS	IJ	30	18.87	0.97
	IP	31	19.50	1.01
	EP	70	44.03	1.41*
	EJ	28	17.61	0.59*
JUDGING	ST	61	38.36	1.26
	SF	62	38.99	0.98
PERCEPTIVES	NF	26	16.35	0.81
	NT	10	6.29	0.65
INTROVERTS	SJ	52	32.70	0.82
	SP	71	44.65	1.48*
EXTRAVERTS	NP	30	18.87	0.93
	NJ	6	3.77	0.40=
JUDGING	TJ	28	17.61	0.79
	TP	43	27.04	1.50=
PERCEPTIVES	FP	58	36.48	1.13
	FJ	30	18.87	0.69=
INTROVERTS	IN	11	6.92	0.64
	EN	25	15.72	0.83
EXTRAVERTS	IS	50	31.45	1.12
	ES	73	45.91	1.09

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS0
IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.39	1.10	0.33	0.75
1.75	0.09	0.67	0.41
19.21	2.27	0.48	0.82
0.44	7.58	0.07	0.23

E	0.01	IJ	0.05	SJ	4.23	IN	2.88
I	0.01	IP	0.01	SP	18.71	EN	1.32
		EP	14.33	NP	0.23	IS	1.14
S	4.57	EJ	13.85	NJ	7.18	ES	1.02
N	4.57						
		ST	5.41	TJ	2.28		
T	1.51	SF	0.04	TP	10.24		
F	1.51	NF	1.62	FP	1.44		
		NT	2.50	FJ	6.83		
J	12.86						
P	12.86						

resignations, the number of resignations for each of the MBTI type categories, and the selection ratios which indicated the overrepresentation or underrepresentation of resignations in a particular type category. There were no significant findings indicated.

TYPE DIFFERENCES IN TERMS OF WITHDRAWALS

The types as ranked in terms of the mean number of withdrawals from greatest to least were shown in the data presented in Table 27. The INTJ type ranked first.

The analysis of variance produced an F-ratio of 1.072 with 15 degrees of freedom which was not significant.

The prediction that there were significantly more P types among students with one or more withdrawals was not upheld. [F=0.341 df=1 sig.=0.5592]

The prediction that there were significantly more ES types among students with one or more withdrawals was not upheld. [F=0.177 df=3 sig.=0.9118]

SUMMARY

The findings analyzed in this chapter were summarized as follows: Type differences were found in regard to grade point average, advanced placement, remedial placement, enrollment in special programs, scholarship awards, and unselected majors. There were no type differences found

Table 26

SOURCE OF DATA

BONNIE BOURG
THE MEYERS-BRIGGS
TYPE INDICATOR
NICHOLLS STATE UNIVERSITY
THIBODAUX LA
FALL 1978

GROUP TABULATED

ENTERING FRESHMEN
FALL 1978

RESIGNATIONS

N= 30

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND (= PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX RATIO OF PERCENT OF TYPE IN GROUP TO (IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
I S T J	I S F J	I N F J	I N T J
N= 1	N= 1	N= 0	N= 2
(= 3.33	(= 3.33	(= 0.0	(= 6.67
I= 0.44	I= 0.39	I= 0.0	I= 4.08
I S T P	I S F P	I N F P	I N T P
N= 3	N= 4	N= 1	N= 0
(=10.00	(=13.33	(= 3.33	(= 0.0
I= 2.31	I= 1.76	I= 0.65	I= 0.0
E S T P	E S F P	E N F P	E N T P
N= 3	N= 1	N= 3	N= 1
(=10.00	(= 3.33	(=10.00	(= 3.33
I= 1.29	I= 0.32	I= 1.08	I= 0.89
E S T J	E S F J	E N F J	E N T J
N= 4	N= 5	N= 0	N= 1
(=13.33	(=16.67	(= 0.0	(= 3.33
I= 1.22	I= 1.28	I= 0.0	I= 1.58

		N	(	I
JUDGING INTROVERTS	E	18	60.00	0.96
	I	12	40.00	1.03
	S	22	73.33	1.04
	N	8	26.67	0.90
	T	15	50.00	1.24
	F	15	50.00	0.84
	J	14	46.67	0.94
	P	16	53.33	1.06
	IJ	4	13.33	0.68
	IP	8	26.67	1.39
	EP	8	26.67	0.85
	EJ	10	33.33	1.11
PERCEPTIVES	ST	11	36.67	1.20
	SF	11	36.67	0.92
	NF	4	13.33	0.66
	NT	4	13.33	1.37
	SJ	11	36.67	0.92
	SP	11	36.67	1.22
EXTRAVERTS	NP	5	16.67	0.82
	NJ	3	10.00	1.05
	TJ	8	26.67	1.20
JUDGING	TP	7	23.33	1.29
	FP	9	30.00	0.93
	FJ	6	20.00	0.73
	IN	3	10.00	0.93
	EN	5	16.67	0.88
	IS	9	30.00	1.07
	ES	13	43.33	1.03

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOSO
IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. , 3.8
= IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. , 6.6

* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. , 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIOO
ENTERING FRESHMEN
BASE TOTAL N =1041. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.50	0.36	0.67	0.08
0.14	0.28	0.73	0.64
0.72	0.24	0.99	0.99
0.76	0.58	0.40	0.99

E	0.02	IJ	0.49	SJ	0.15	IN	0.99
I	0.02	IP	1.11	SP	0.62	EN	0.81
		EP	0.30	NP	0.65	IS	0.06
S	0.14	EJ	0.16	NJ	0.99	ES	0.01
N	0.14						
		ST	0.55	TJ	0.36		
T	1.22	SF	0.12	TP	0.58		
F	1.22	NF	0.37	FP	0.08		
		NT	0.52	FJ	0.85		
J	0.10						
P	0.10						

Table 27

Rank Order of Types According to Mean Number of Withdrawals

Type	Rank	Mean	S. D.	N
INTJ	1	1.7059	2.3655	17
ISTP	2	1.1111	1.4178	45
ENTP	3	1.0769	1.2223	39
ISFP	4	1.0759	1.5087	79
INTP	5	.9565	.8245	23
ESFJ	6	.9412	1.2577	136
ESTJ	7	.9386	1.2641	114
ESTP	8	.9383	1.4084	81
ISTJ	9	.8974	1.0518	78
INFJ	10	.8947	.8753	19
ESFP	11	.8440	.9639	109
ENTJ	12	.8182	1.2587	22
ENFP	13	.8125	1.2423	96
ENFJ	14	.7561	1.1786	41
ISFJ	15	.7528	1.0690	89
INFP	16	.6415	1.1110	53

in terms of resignations and withdrawals. The findings were presented in Tables 28 and 29.

A significant difference was found among the types in regard to grade point average. The specific predictions that the NJ types had the highest GPA's was significant at the .001 level. The prediction that the IN quadrant ranked highest was not supported. The prediction that the ES quadrant ranked last was supported but was not significant.

The predictions that there were more N types and more IN types in advanced placement were supported. The prediction that more NF types were enrolled in advanced placement in English was supported but the prediction that more NT types were enrolled in advanced placement in mathematics was not supported.

The predictions that more S types and more ES types were enrolled in remedial placement and that more ST types were enrolled in remedial English were all supported. The prediction that more SF types were enrolled in remedial mathematics was not.

The predictions that more N types, more IN types and more NF types were enrolled in the Honors Program were upheld. The predictions that more S and ES types were enrolled in the Developmental Program were upheld. The prediction that more S types were enrolled in developmental reading was not upheld.

The predictions that there were more N, EN and NF types among scholarship winners were all significant.

Table 28

Significance of Type Predictions in Terms of Grade Point Averages and Withdrawals

	Type or Group Predicted	F-ratio	df	sig.
Grade Point Average	all types	2.296	15	.0033
	NJ	3.504	3	.0087
	IN	2.781	3	.0400
	ES	2.781	3	.0400
Withdrawals	P	0.341	1	.5592
	ES	0.177	3	.9118

The prediction that there were more P types among those with unselected majors was upheld, but the predictions that there were more I_ _P types in this group was not supported.

The predictions that there would be more P and ES types among those who resigned were not upheld.

No significant difference among the types in terms of withdrawals from courses were found.

Table 29

Significance of Type Predictions in Terms of Advanced Placement, Remedial Placement, Special Programs, Scholarship Awards, Unselected Majors and Resignations

Group	Type Prediction	Chi^2	Sig.
Advanced Placement	N	36.50	.001
	IN	3.34	none
English	NF	6.93	.01
Math	NT	18.63	.001
Remedial Placement	S	43.51	.001
	ES	16.03	.001
English	ST	36.01	.001
Math	SF	0.48	none
Special Programs			
Honors	N		.001
	IN	18.30	.001
	NF	13.71	.001
Developmental	S	35.70	.001
	ES	19.96	.001
Reading	S	0.07	none
Scholarship Awards	N	16.90	.001
	EN	16.60	.001
	NF	11.53	.001
Unselected Majors	P	12.86	.001
	IP	0.01	none
Resignations	P	0.10	none
	ES	0.01	none

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This research was concerned with freshmen students and the problem which faced higher education because of the advent to the nation's campuses of non-traditional students who did not possess the academic skills needed to succeed in college.

The research endeavored to study the academic success of college freshmen in terms of Jungian psychological types and to determine if there were differences in psychological types among the freshmen students in grade point averages, advanced placement, remedial placement, enrollment in special programs, scholarship awards, unselected majors, resignations and withdrawals.

In Chapter 2 an overview of the history of student personnel work in higher education was given and the need for instructional reform based on the changing types of students was reviewed. Carl G. Jung's theory of psychological types was presented from his own writings. In his research, Jung identified eight types. He named the two basic ways in which an individual related to the outer world of objects or the inner world of ideas as extraversion and introversion respectively. He combined one of these attitudes with one of four basic functions or mental processes which he termed sensation, intuition, thinking, and feeling

and arrived at four extraverted and four introverted types.

Two mental functions he termed irrational and identified them as sensation and intuition; the other two he termed rational and identified them as thinking and feeling.

The Myers-Briggs Type Indicator, known as the MBTI, was selected as a valid, reliable instrument for the application of Jungian Type Theory. It was published by Consulting Psychologists Press and scored by the Center for the Applications of Psychological Types, known as CAPT. The MBTI was administered to full-time freshmen at Nicholls and 1041 usable answer sheets were scored and the findings placed on a Type Table.

Grade point averages, advanced placement, remedial placement, enrollment in special programs, scholarship winners, unselected majors, resignations and withdrawals were studied in terms of the Jungian psychological types. A summary of the findings follows. They were reported in detail in Chapter 4.

1. There were differences among the types with regard to grade point average.

The intuitive (N) types scored consistently higher than did the sensing (S) types. The judging (J) types scored consistently higher than did the perceptive (P) types.

Although the INTJ type ranked last in mean grade point average, this did not affect the significant ranking of the students with the preference for intuition and

judging (NJ). These types had the highest mean grade point averages as predicted.

The ranking of the INTJ type as lowest in mean grade point average was a surprising finding. A closer look at this group revealed that there were 17 in the group at the beginning of the semester and four of them resigned. The spread of scores was the greatest of any group which led to the conclusion that there may have been extreme cases which changed the entire type. There was one low score of .500; the highest in the group was 4.000. The small number of NJ types may have been an indication that, as reported in the literature, a selection factor regarding the type of college or university attended may have occurred. These academic types may have been drawn to larger or more prestigious institutions.

There was no consistent pattern relative to introversion (I) and extroversion (E). Introversion (I) when combined with judging (J) was higher than introversion (I) combined with perception (P). When combined with sensing(S), introversion (I) was higher than extraversion (E). However, when combined with intuition (N), introversion (I) was lower than the extraversion intuition (EN) combination although it was predicted to be higher. This could have been the result of the active recruitment of the high ability extraverted (E) types by the university's method of selection of scholarship winners partly on the basis of interviews. The finding that extraverted (E) types outnumbered introverted

(I) types among the scholarship winners was significant.

The feeling (F) types scored consistently higher than the thinking (T) types. This also may have been a result of the recruitment policy of awarding scholarships partly on the basis of interviews. The high ability intuitive feeling (NF) types were significantly present among the scholarship winners.

2. In all advanced placement couses, there were significantly more intuitive (N) and introverted intuitive (IN) types. This followed the findings reported in the literature. The reason for the introverted intuitive (IN) types not ranking first in the quadrants in terms of grade point averages could have been the result of a combination of self-selection of these types to other universities as well as the active recruitment of high ability E types as scholarship winners.

There were significantly more intuitive with feeling (NF) types in advanced placement in English and significantly more intuitive with thinking (NT) types in advanced placement in mathematics. These findings are in line with indications in the literature that the feeling (F) types select fields relating to language and social sciences and the thinking (T) types select fields relating to mathematics and science.

3. In all remedial placement courses, there were significantly more sensing (S) and extraverted sensing (ES) types. There were significantly more students with the

sensing and thinking (ST) preference in remedial English courses. These findings are the opposite of those regarding advanced placement as would be expected. Since the intuitive feeling (NF) types were significantly present in advanced placement English courses, the opposite sensing thinking (ST) types would be expected to be present in remedial English courses. This finding was significant. However, the expectation that more sensing feeling (SF) types would be in remedial mathematics couses was not borne out. The findings indicated that a significant number of sensing thinking (ST) types were also in remedial mathematics. This lends credence to the claim that the sensing-thinking (S-F) functions are the slowest to develop and that lack of development of these two mental processes may be characteristic of low-achieving students.

4. There were significant findings in regard to enrollment in the two special programs, Honors and Developmental. In the Honors Program which was an English program, there were significantly more intuitive (N) types, more introverted intuitive (IN) and more students with the intuition and feeling (NF) preference. These findings were all as they were expected to be.

5. In the Developmental Program, there were significantly more sensing (S) and extraverted sensing (ES) types. These findings were expected. However, the lack of significance of sensing (S) types in developmental reading courses was surprising. When combined with thinking, the preference

for sensing (ST) was significant, giving another indication that the sensing thinking (ST) combination may be characteristic of low achievement. The inability of these types to read well may be a factor in their low achievement. This is in line with the rankings of the ST types as a group (Table 14) and the ST types as ranked according to mean grade point average. The ESTP, ESTJ, ISTP ranked 13th, 14th, and 15th, respectively. Refer to Table 8, page 51. Only the ISTJ type with the introvert's (I) interest in ideas and concepts and the judging (J) type's ability to make decisions and to achieve higher grades, had a relatively high sixth ranking.

6. Among scholarship winners there were significantly more intuitive (N) types, more extraverted intuitive (EN) and more students with a preference for intuition and feeling (NF). Although the (IN) and (NT) types were reportedly the most academic, the prediction that the (EN) and (NF) types would be significantly present among scholarship winners was made with the knowledge that winners were chosen from among students whose ACT scores were high on the basis of interviews. This method of selection favors the extraverted (E) and intuitive feeling (NF) types. There were no INTJ types among scholarship recipients. There was one 4.000 average and there were three averages above 3.5000 in the group.

7. Among the students with unselected majors, there

were significantly more perceptive (P) types. This was expected because of the tendency of these types to postpone decisions and action until all the information is gathered. The combination of introversion and perception (IP) had more resignations whereas the extraverted perceptive (EP) and the introverted judging (IJ) both had fewer than expected. However, the differences were not significant.

8. There were no significant findings among the students who resigned. A closer look at this group revealed that of the 58 students who resigned, MBTI data was available on only 33, just over half the total number. It is probable that many of these students had already resigned by the time the tests were administered. The group studied may not have been representative of the total group of students who resigned.

9. There were no significant findings in terms of withdrawal from classes.

CONCLUSIONS

The findings led to the conclusion that there were significant differences among the psychological types in grade point averages, advanced placement, remedial placement, enrollment in special programs, scholarship awards, and unselected majors. There were no differences with regard to resignations and withdrawals.

Intuition (N) was the most important factor in

academic success, the combination of intuition and judgment (NJ) was the type preference with the highest grade point averages, extraversion (E) and feeling (F) were important where selection of scholarship winners was based on interviews. Sensing (S) was the preference most often associated with low achievement in general, and the combination of sensing and thinking (ST) was associated with low achievement in English, Mathematics, and Reading.

The research implied that one of the reasons that the "new" students on the college campuses were failing was that they were different in terms of psychological type and therefore in academic success from the traditional students for which higher education was originally designed.

Further implications from the study were that the application of Jung's theory of psychological types using the Myers-Briggs Type Indicator made possible the early identification of students likely to fail. It furnished the necessary first step in identifying the characteristics of the "new" types of non-traditional, low-achieving students as a basis for instructional and curricular reform.

RECOMMENDATIONS FOR FURTHER RESEARCH

The reportedly highly academic INTJ types were few in number at Nicholls and were not living up to academic expectations. Further research which would identify the psychological types and their academic success in other

universities which are similar to Nicholls and comparison with universities different from Nicholls was recommended to determine whether a self-selection factor regarding the type of university attended was in operation.

Further research into the characteristics and the learning styles of the "new" students, particularly the sensing (S) types and the preference combination of sensing and thinking (ST), was recommended as a contribution which would broaden the scope of known findings useful as a basis for instructional and curricular reform.

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DIVISION OF STUDENT DEVELOPMENT
NICHOLLS STATE UNIVERSITY
THIBODAUX, LOUISIANA 70301

ASSISTANT VICE PRESIDENT
OF STUDENT AFFAIRS

P.O. BOX 2008
UNIVERSITY STATION

July 5, 1978

Dr. Vernon F. Galliano, President
Nicholls State University
Thibodaux, Louisiana 70301

Dear Dr. Galliano:

I am planning to do my research for my doctoral dissertation on the entering freshmen at Nicholls. I am requesting your permission to do this.

I will appreciate your favorable consideration of my request as I appreciate your continuing cooperation in my endeavors here at the University.

Respectfully yours,

Bonnie Bourg

Bonnie Bourg
Assistant Vice President
of Student Affairs

BB:ppa

(504) 446-8111, Ext. 607

NICHOLLS STATE UNIVERSITY
THIBODAUX, LOUISIANA 70301

OFFICE OF THE PRESIDENT

July 6, 1978

Dean Bonnie Bourg
Nicholls State University
Thibodaux, Louisiana 70301

Dear Dean Bourg:

I am pleased that you are planning to do your doctoral research at Nicholls, and I give you my permission to do so.

I extend to you the full cooperation of my office and the University in this endeavor. Please let me know if I can be of any further assistance.

Sincerely,

Vernon F. Galliano
President

VFG:gg

DIVISION OF STUDENT DEVELOPMENT
NICHOLLS STATE UNIVERSITY
THIBODAUX, LOUISIANA 70301

ASSISTANT VICE PRESIDENT
OF STUDENT AFFAIRS

P.O. BOX 2008
UNIVERSITY STATION

July 5, 1978

Dr. O. E. Lovell
Vice President of Academic Affairs
Nicholls State University
Thibodaux, Louisiana 70301

Dear Dr. Lovell:

As the topic of my research for my doctoral dissertation, I plan to study the academic success of Nicholls freshmen in terms of Jungian psychological types. In order to do this it will be necessary to have scores on the Myers-Briggs Type Indicator for the freshmen entering Nicholls for the first time this fall.

Since English is required of all freshmen, I am seeking your permission to administer this instrument to students in all freshman English classes early in the fall semester.

Please advise me if this is in accord with University policy.

Sincerely yours,

Bonnie Bourg

Bonnie Bourg
Assistant Vice President
of Student Affairs

BB:ppa

(504) 446-8111, Ext. 607

NICHOLLS STATE UNIVERSITY
THIBODAUX, LOUISIANA 70301

OFFICE OF THE VICE PRESIDENT
ACADEMIC AFFAIRS

BOX 2002
UNIVERSITY STATION

July 5, 1979

Dean Bonnie Bourg
201 Pennsylvania Avenue
New Roads, Louisiana 70760

Dear Dean Bourg:

I am happy to grant permission for you to do the research for your doctoral dissertation at Nicholls State University. Your plans to administer the Myers-Briggs Type Indicator to the students enrolled in freshman English are in accord with University policy. We welcome research that will enable us to learn more about our freshmen students.

I suggest that you contact Dean LeCompte to make the necessary arrangements.

Sincerely yours,

O. E. Lovell, Jr.
Vice President of Academic Affairs

OELjr:bam

DIVISION OF STUDENT DEVELOPMENT
NICHOLLS STATE UNIVERSITY
THIBODAUX, LOUISIANA 70301

ASSISTANT VICE PRESIDENT
OF STUDENT AFFAIRS

P.O. BOX 2008
UNIVERSITY STATION

July 5, 1978

Dr. Nolan LeCompte, Dean
College of Liberal Arts
Nicholls State University
Thibodaux, Louisiana 70301

Dear Nolan,

The research problem I have selected for my doctoral dissertation is a study of the academic success of Nicholls freshmen in terms of the psychological types postulated by Carl Jung. In order to do this study, it will be necessary to have scores on the Myers-Briggs Type Indicator for all the freshmen entering Nicholls for the first time this fall.

Since English is required of all freshmen, I am seeking your permission and cooperation in administering this instrument to students in all freshman English classes early in the fall semester.

Thank you for your cooperation.

Cordially,

Bonnie

Bonnie Bourg
Assistant Vice President
of Student Affairs

BB:ppa

(504) 446-8111, Ext. 607

NICHOLLS STATE UNIVERSITY
COLLEGE OF LIBERAL ARTS
THIBODAUX, LOUISIANA 70301

OFFICE OF THE DEAN

BOX 2020
UNIVERSITY STATION

July 6, 1978

Dean Bonnie Bourg
Assistant Vice President
of Student Affairs
Nicholls State University
Thibodaux, Louisiana 70301

Dear Bonnie,

I have spoken to David Boudreaux and he offers his cooperation and that of the English Department in administering the Myers-Briggs Type Indicator to the students in all Freshman English classes.

I agree with your suggestion to exclude the students in English 100 since early in the semester they would not have the facility with the language required for completing the instrument.

I offer my cooperation and best wishes. I am vitally interested in what you are planning to do.

Sincerely,

Nolan

Nolan LeCompte, Dean
College of Liberal Arts

NL:mb

NICHOLLS STATE UNIVERSITY
THIBODAUX, LOUISIANA 70301

ASSISTANT VICE PRESIDENT
OF STUDENT AFFAIRS

P.O. BOX 2008
UNIVERSITY STATION

July 7, 1978

Dr. David Boudreaux, Head
Department of English
Nicholls State University
Thibodaux, LA 70301

Dear Dr. Boudreaux:

I am delighted that the faculty of the Department of English has agreed to administer the Myers-Briggs Type Indicators in their freshman English classes.

As soon as the final class lists are ready I will package the MBTI booklets and answer sheets and label them as to name of the faculty member, section of the class, and number. Each packet will contain specific directions for the administration of the instrument.

If you will let me know when the testing is completed, I will send for the packets.

Please extend my appreciation to your faculty. Thank you for your cooperation.

Sincerely yours,

Bonnie Bourg
Assistant Vice President
of Student Affairs

abm

(504) 446-8111, Ext. 607

NICHOLLS STATE UNIVERSITY
THIBODAUX, LOUISIANA 70301

ASSISTANT VICE PRESIDENT
OF STUDENT AFFAIRS

P.O. BOX 2008
UNIVERSITY STATION

February 20, 1979

Dear

I am preparing to send the Myers-Briggs Type Indicator answer sheets to Gainesville, Florida for the compilation of the data on the study of Nicholls University freshmen which I began last semester. I noticed that your answer sheet is incomplete.

I would like very much to include you in the study, If you wish to be included, please come to the Office of Student Development in the Student Union and ask for me (Dean Bourg) so that you can complete the Indicator. I would appreciate your cooperation so very much.

Thank you.

Sincerely yours,

Bonnie Bourg
Assistant Vice President
of Student Affairs

abm

(504) 446-8111, Ext. 607

DIVISION OF STUDENT DEVELOPMENT
NICHOLLS STATE UNIVERSITY
THIBODAUX, LOUISIANA 70301

ASSISTANT VICE PRESIDENT
OF STUDENT AFFAIRS

P.O. BOX 2008
UNIVERSITY STATION

June 20, 1979

Dr. Mary McCaulley, President
CAPT, Inc.
1441 NW 6th Street, Suite B-400
Gainesville, Florida 32601

Dear Dr. McCaulley:

The MBTI data have now been merged with the Nicholls data and my study is proceeding on schedule. I am appreciative of the efficiency with which the CAPT staff have furnished the data and responded to my requests for materials.

I am now requesting your permission to reproduce the CAPT publication "Understanding the Type Table" as part of my dissertation.

Thank you for your continuous cooperation.

Sincerely yours,

Bonnie Bourg

Bonnie Bourg

mcb

(504) 446-8111, Ext. 607

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CENTER FOR APPLICATIONS OF PSYCHOLOGICAL TYPE, INC.
Concerned with the constructive use of differences
a non-profit public organization for education, research and services

1441 northwest 6th street suite B-400 • gainesville, florida 32601
telephone (904) 375-0160

June 26, 1979

Bonnie Jean Bourg
306 Cherokee Avenue
Thibodaux, Louisiana 70301

Dear Ms. Bourg:

We have received your request to reproduce "Understanding the Type Table" as part of your dissertation.

We are pleased to give you permission to use "Understanding the Type Table" in any way which will help your readers understand your work. Please retain our copyright notice on your reproduction, and add "Used with permission."

I hope you are making good progress on your valuable study.

Sincerely,

Mary H. McCaulley

Mary H. McCaulley, Ph.D.
President

Mean Grade Point Averages
Nicholls State University
Entering Freshmen
Fall 1978
N=1008

	SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
	ISTJ	ISFJ	INFJ	INTJ	JUDGING
	N= 76	N= 88	N=19	N= 14	
	%= 7.5	%= 8.7	%= 1.9	%= 1.4	
M	2.7291	2.7731	2.8703	2.3533	
SD	.8402	.7482	.8376	1.2419	
	ISTP	ISFP	INFP	INTP	PERCEPTIVE
	N= 42	N= 75	N=52	N= 23	
	%= 4.2	%= 7.4	%= 5.2	%= 2.3	
M	2.4108	2.5880	2.8101	2.6052	
SD	.9947	.7663	.7405	.7842	
	ESTP	ESFP	ENFP	ENTP	PERCEPTIVE
	N= 78	N= 108	N=92	N= 38	
	%= 7.7	%= 10.7	%= 9.1	%= 3.8	
M	2.4948	2.6128	2.5996	2.7124	
SD	.6417	.7391	.7759	.6685	
	ESTJ	ESFJ	ENFJ	ENTJ	JUDGING
	N= 110	N= 131	N= 41	N= 21	
	%= 10.9	%= 13.0	%= 4.1	%= 2.1	
M	2.4542	2.6492	2.8910	3.1230	
SD	.9789	.8552	.6677	.6524	

INTROVERTS

EXTRAVERTS

	N	M	S.D.
E	619	2.6187	.8058
I	389	2.6743	.8305
S	708	2.5997	.8277
N	300	2.7357	.7750
T	402	2.5761	.8678
F	606	2.6827	.7766
J	500	2.6817	.8678
P	508	2.5992	.7591
IJ	197	2.7356	.8355
IP	192	2.6115	.8228
EP	316	2.5918	.7189
EJ	303	2.6467	.8877
ST	306	2.5268	.8759
SF	402	2.6551	.7856
NF	204	2.7370	.7576
NT	96	2.7329	.8267
SJ	405	2.6402	.8719
SP	303	2.5483	.7629
NP	205	2.6745	.7490
NJ	95	2.8677	.8289
TJ	221	2.6097	.8556
TP	181	2.5350	.7616
FP	327	2.6348	.7565
FJ	279	2.7388	.7972
IN	108	2.7178	.8494
EN	192	2.7458	.7386
IS	281	2.6576	.8241
ES	427	2.5616	.8288

VITA

Bonnie Jean Bourg was born in New Orleans, Louisiana on February 17, 1927, and spent her early life in Houma, Louisiana where she attended elementary and high school. A 1947 Sociology graduate of Sophie Newcomb College, Tulane University, she received her Masters degree from Louisiana State University in 1948 and did advanced work there in 1960-1961 and 1975-1979. She received her Ph.D. in Education in August 1979.

She served as an instructor on the first faculty of Francis T. Nicholls Junior College of Louisiana State University when it opened in 1948, and as head of the Women's Health and Physical Education Department from 1950 until 1963. She spent her entire professional life at the school as it became a four-year college in 1957 and then a University in 1972. In 1963 she was named the first Dean of Women at Nicholls State College, as it was then called. In 1977 her title was changed to Dean of Student Development and she was promoted to Assistant Vice-President of Student Affairs.

During the summers she served as Summer Program Director, Terrebonne Parish Recreation Commission, 1943-47; Director, Thibodaux Swimming Program, City of Thibodaux Recreation Department, 1948-51; and Director of Recreation,

High School Leadership Conference, Division of High School Relations, Louisiana State University, 1952-57.

A member of Iota Chapter, Epsilon State, of the Delta Kappa Gamma Society International, she served on the Panel of Judges for the Educators Award from 1972-1976. She was awarded the Grace B. Agate Scholarship by Epsilon State (Louisiana) in 1976 and the Berneta Minkwitz International Scholarship in 1979.

EXAMINATION AND THESIS REPORT

Candidate: BONNIE JEAN BOURG

Major Field: EDUCATION

Title of Thesis: "A STUDY OF THE ACADEMIC SUCCESS OF COLLEGE FRESHMEN IN TERMS OF JUNGIAN PSYCHOLOGICAL TYPES"

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination:

July 12, 1979